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A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR.

WITH WHICH IS INCORPORATED THE "BRITISH ARCHITECT."

VOL. CXXI.—No. 4100. SEPTEMBER 2, 1921.

PRESENT-DAY ARCHITECTURAL STYLE

IN London at the present day elements of different kinds, native and foreign, ancient and modern, exist simultaneously, and make to the eye and judgment their several and often contradictory appeals. Diversity runs riot, and there are almost as many varieties of architectural treatment as there are streets. Individualist expression, advertisement, and caprice all play their parts, but it will be instructive to consider the different types of present-day architecture only as affected by practical convenience, scholarship, and the imitation of favourite models.

Practical convenience from the point of view of the building owner is the main-spring of architectural activity, though this driving force is partially directed and regulated by other considerations. First among these is the practical convenience of the general public as represented by the by-laws, which require a certain solidity in structures that would certainly be erected in a temporary and unsubstantial manner if commercial considerations alone prevailed. The straightforward planning of Selfridge's department store seems to be an example of the interaction of these two forms of practical convenience. The maximum of undivided floor space has been provided, and the safeguards demanded by the by-laws so concentrated into an orderly scheme as to intrude upon the general convenience of the business as little as possible. In this building the opportunity afforded by steel construction for the reduction of supports to a minimum has been allowed to find its expression in the exterior treatment of the elevations, where the Palladian use of gigantic pilaster-columns has the sanction of convenience and commercial suitability. Granting the architectural propriety of the use of steelwork clothed in stone, it becomes necessary to recognise in this revised Palladian style a possible standard façade for certain types of business premises. The Kodak building in Kingsway conforms to the same idea in the main, though its detail suggests Egyptian work of the attenuated character made known to us by surviving pictures and ancient models rather than by the massive remains of Egyptian temples and palaces. The Polytechnic building and some other premises in Regent-street express the same motif clothed in the Neo-Grec style, where elements derived from Greek and French art are set the task of acclimatising themselves to the London atmosphere.

Much good scholarship is visible in these works, and it is hard to blame any individual architect if scholarship now deals in the trimmings of architecture, clothes steel girders with architraves of preternaturally long span composed of stones wonderfully hollowed to fit the flanges, or conscientiously burns its midnight oil over minutiæ of archæological exactitude which in the light of present-day London confess themselves to be anachronisms after all. But if in this connection of hidden steel framework some British architects are found to preach and practise the convenient doctrine that the end justifies the means, and assert that "architecture is meant to be looked at, not moralised over," there exists another party sworn to demonstrate the beauty of construction as its own expression. The generally admitted success of the new Cathedral at Westminster may well be claimed as a triumph for the purists, since the late John Bentley proclaimed his horror of shams at the outset of his great essay in the Byzantine manner. Purposes of convenience, the economy of church funds, scholarship, travel, and a faculty for selecting models worthy of imitation have all contributed to the production of this extraordinary work. Undeniably foreign to our climate and history, the building takes its place by right of suitability to its purpose and the enduring strength of its construction. Unapproved at first by many architects as well as by the clergy of the Established Church, it has already had an effect upon the style of more recent church designs, and seems to have sown the seeds of yet another revival of ancient architecture in soil all too fertile for such imitative growths. But, as if to emphasise the cross-fire of fashion in building matters, the new Cathedral had scarcely been established in Westminster before the old Quebec Chapel at Marble Arch, an interesting relic of stucco architecture, also in a Southern style, was pulled down and its site utilised for the building of the Church of the Ascension in an excellent style of Gothic, externally faced with thin bricks with smeared flush mortar joints in the approved modern method.

Among the welter of dissimilar works one main and marked direction of recent change is the almost complete abandonment, in London, at all events, of the revived Gothic style except, as in the instance quoted above, for the purposes of church building. Even here there are exceptions, and the Westminster Guildhall flaunts its flamboyant balconies in affirmation of continued life in spite of the incursions of Byzantine or Neo-Grec. At the moment it does not seem probable that St. Pancras Hotel will prove a model for a renewed revival of Gothic detail in commercial life, though the dying fires of Gothic art have gleamed somewhat theatrically in some of the great hotels erected in Bloomsbury during the past twelve years. With the reinstatement of Classic, as the prevailing fashion, Portland stone has come into its own again, but since the commencement of the Gothic revival a vast variety of materials have been experimentally tested in London buildings. Multicoloured brickwork and terra-cotta ranked high in favour with an older generation of architects, and the mellowing action of time and weather may do a great deal to render their choice acceptable to their great-grandchildren. Granite has sometimes been employed, as in the offices of the *Morning Post*, and by the murky colour it has picked up deepens the somewhat sombre cast of that building.

Fashions in colour and texture change with the changes in material, and the practice of British architecture seems in this matter of the quality of finish to be divided between the worship of the very rough and the ultra refined. Effects of colour in London depend very largely upon the way in which a building carries its coating of soot, and it is one of the great charms of Wren's architecture that it has produced such beautiful effects of black and white under the influence of sun and soot and rain. Another division of opinion among students of the Classic styles concerns the propriety of imitating the works of this great native master, Sir Christopher Wren, and, if architecture is to be considered as a matter of the application of detail, Wren's work is not, perhaps, the safest of mines from which the student may extract the most fashionable patterns for his architectural trimmings. Architecture, with the decay of the apprenticeship system, tends to become more and more a question of scholastic learning, and the methods of study seem to lie in the direction of imitation of the excellent works of draughtsmanship and design produced in the Paris school. Beautiful and accurate drawings of Classic art can be readily acquired by architectural schools, and it is far easier to set a student to copy a well-rendered drawing in the French manner than to instruct him how to follow in the more difficult path of Wren's constructive genius.

NOTES.

Street's Law Courts.

SOME of the letters written to the President of the United States of America by Mr. Page, when Ambassador to this country, are now being published, and they will be found of special interest and show the writer as a discriminating, sagacious and sympathetic critic. But his comments on the Law Courts in the Strand revive the old and frequently repeated criticism upon them. He says :—

"They build their great law court building (the architecture ecclesiastical) so as to provide an entrance hall of imposing proportions which they use once a year; and to get this fine hall they have to make their court-rooms, which they must use all the time, dark and small and inaccessible. They think as much of that once-a-year ceremony of opening their courts as they think of the even justice that they dispense: somehow they feel that the justice depends on the ceremony."

We may have more to say on this, but meantime we may recall the fact that the architect ought not to be blamed for all the defects of the plan, as his hands were tied by those in office.

Reality in Architecture.

PROFESSOR LETHABY'S articles are always suggestive and provocative of thought, and his contribution this month on "Modernism and Design—Building Commonplaces the Substance of Architecture" (see p. 288) will be found of even more than usual interest. The criticism contained in his imaginary architectural problem for students, with which he begins his article, has been made before, but it comes as an admirable prelude to his excellent article, while his concluding sentences may well be repeated here: "A living architecture is to be reached only through reality in common things. The real is the right and even the romantic. Great historical schools have developed in all sorts of ways beyond the common base, but the building base is the one thing needful."

The Single Master-Mind.

Is there something rather fine in the idea of a single master mind conceiving the minutest detail which helps to build up the complete entity in an architectural composition? In our correspondence columns this week "Isis" challenges this statement made by Mr. Maxwell Aylwin in his article, "The World as We Find It," published in our issue for August 19, and asserts that it is based on a rather discredited sentimentality, part of the mistaken legacy of Victorian complacency. We can quite understand and to an extent appreciate Mr. Aylwin's point of view, but is there not a good deal to be said for our correspondent's criticism?

Payment by Results

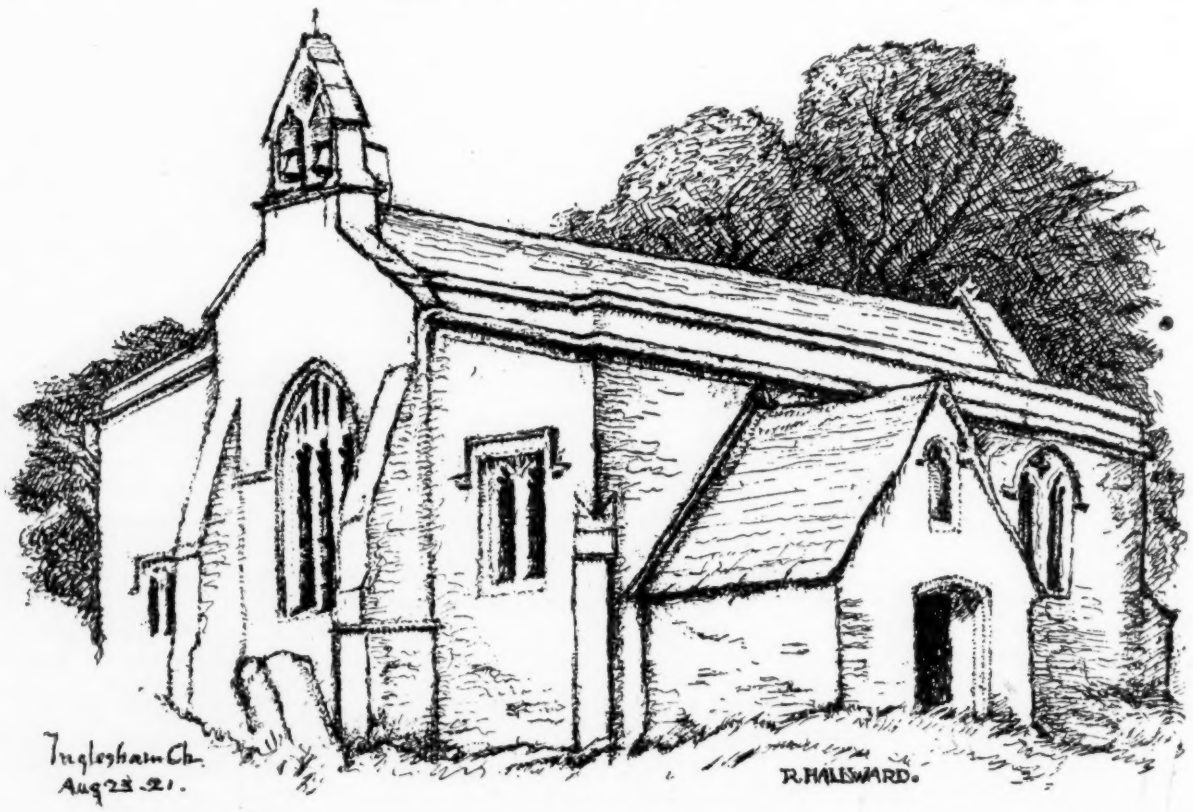
THE particulars we give on another page of the strike against Messrs. Tarrant, the well-known firm of contractors, are of interest in more ways than one. Here we have a firm engaged in erecting houses for the working classes, and in order to get them erected as quickly as possible the firm introduced a system of payment by results. This system has so far worked in favour of the men to the extent of 5d. per hour more than the local rate. The men, it appears, were quite agreeable to this arrangement, but the officials of the Bricklayers' Union, holding that the men were engaged in piece-work, have stepped in, and brought the men out on strike. Members of other trades engaged have come out in sympathy, and about 300 workers are affected. It is difficult to understand the action of this Union, though it is another illustration of the absurd lengths to which some extremists are prepared to go in pursuance of their preconceived theories.

Organisation in the Building Industry.

SOME observations in the report which has been issued by the Committee on the Elimination of Waste in Industry of the American Engineering Council, part of which we give on p. 299, have a bearing on this action of the Bricklayers' Union. After dealing with various sources of waste in the building industry, the Committee expresses the opinion that many unions have exceeded the limits of fairness, and, partly because of the leaders' lack of appreciation of the fundamental need for high production, have formulated by-laws and, in individual cases, have formulated demands that have been a tremendous factor, directly or indirectly, in the restriction of output.

Low Output in Building.

A FUNDAMENTAL, if not the greatest, cause of low output in building work, *i.e.*, the fact that all members of unions in the same trade are paid the same wage, is a matter of general agreement between employers engaged in the industry; and even operatives of the better type are to be found who think



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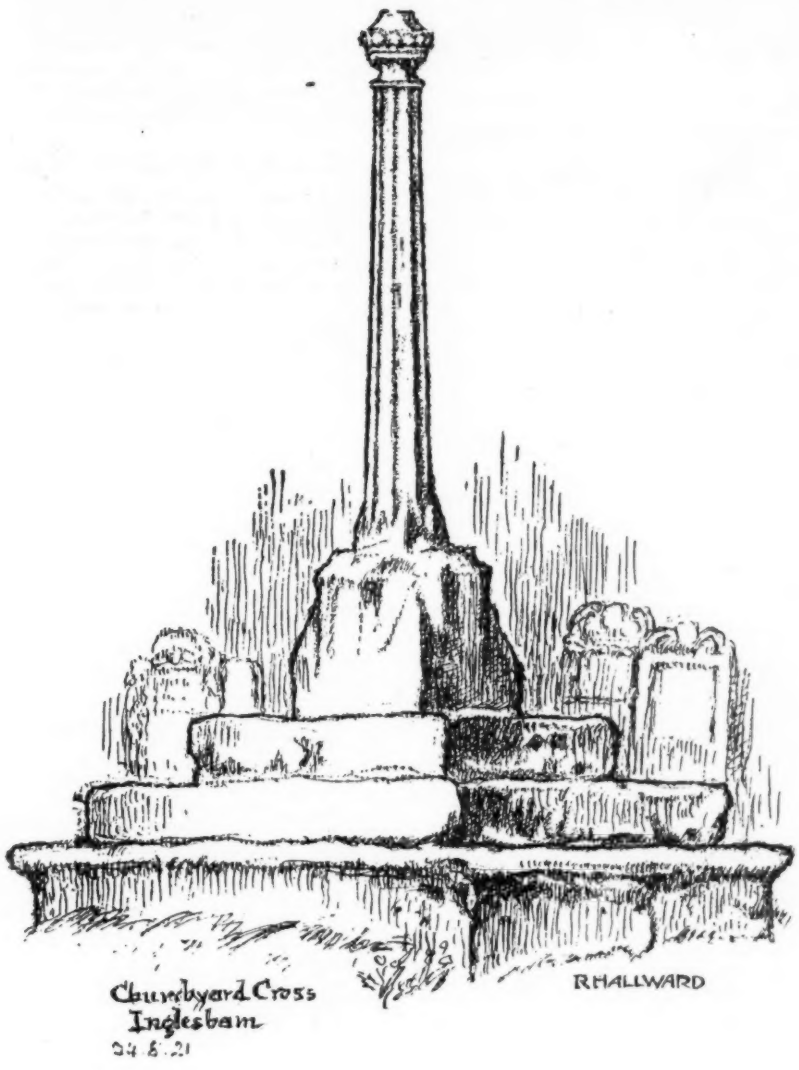


so too. This agreement is not limited to the building industry of Great Britain, and it is expressed in the report of the Committee on the Elimination of Waste in Industry of the American Engineering Council. The report contains much of interest, and suggests the need for thorough re-adjustment of building methods, and on the suggestion of low output we are told that as things are "there is no incentive. As a result of records made by the authors on actual construction work, it was found that in the building trades on every job there are usually a few men who do one-third more work than the average man on this same job. These men also do better work. Is it fair to these good men for them to receive the same wages as the others?" To which question there should be but one answer. This question, and the whole problem of the organisation and elimination of waste in the building industry, is a subject on which one would have thought the Consultative Board for the Building Industry would have considered and reported on in this country.

Inglesham Church, Wilts.

THIS ancient village church stands on slightly elevated ground, and can be seen from the Isis, sequestered amidst its trees, little more than a mile above Lechlade. It is a church of great antiquity and interest, one of the most venerable in the country, and has retained much of its original character, inasmuch as it has been preserved from the fell hand of the restorer. Its poverty would seem to have been its preservation. Now there are necessary repairs to be done to the roof, which, owing to defects in the stone tiling, has let in the wet, rotting some of the internal roof timbers. Fortunately the damage does not extend beyond that which can be dealt with by ordinary repairs, in no way altering the original character. A tiny agricultural parish of 146 inhabitants only, it is difficult to raise enough even for such repairs as are required, and we are glad to publish the appeal for funds (see page 280) in order to raise the amount required. The late Mr. Micklethwaite made an interesting report on the church some years ago, and the Society for the Protection of Ancient Buildings is supporting the present appeal for funds. We have seen the work now in progress on the roof, which is being done with the understanding and the care necessary in such a case. It would be an inconceivable impiety to tamper with any of the ancient features of the church. The parish is fortunately in charge of a vicar keenly alive to the preciousness of the building in his charge; and we commend the appeal, which is really for a very modest sum, to our readers.

The English Tradition.

THIS little church, so poignant in its appeal—one extending far beyond any that may be felt locally—is part of our national heritage, and its preservation from either neglect or despoiling by "restoration" schemes is a matter of public concern. Situated in what may be called the heart of England, it combines within itself many centuries of English life and endeavour, and is haunted by all the associations which such antiquity inspires. From Saxon and Norman times onward, from mediæval screenwork and stone carving down to "high-decker" pew, one period jostles another, while in no way detracting from the unity of the whole. Lacking, no doubt, the conformity which the theorist of church order desires, it none the less gives us in this loose and changeable constitution of itself through different periods a key to that love of the church which the "stylist" and the reformer have done so much to undermine. This impresses us especially in such a church as this of Inglesham, where we are able to look back through the centuries without the break in tradition which was imposed by the Tractarian and the Gothicist, when an intellectual preconception gradually submerged the freedom and beauty of the older tradition.

Our Untidy Villages.

THE letter of Mr. Mawson, to which we referred last week, regretting the loss of pleasure in London parks through their general untidiness—no doubt much increased by the late war—sets one thinking of our villages where so much the same thing applies through the lack of a more corporate sense. So few of us are ready to extend the care we bestow on our own gardens to the welfare of the locality in which we live. How charming the little bits of open space, grass plots, wayside banks, so much neglected, could be made if the dwellers in villages added the care of them to that of their own gardens. And yet it would not cost much in labour to preserve the charm of these open places. It is not impossible to observe quite near to the new war memorial at Inglesham (illustrated on this page) which the village has erected, some refuse heap or storage place of old tins thrown out by the villagers, and if we look down from the old bridge the charm of its running water, musk embroidered, is defiled by old tins and broken china. It would make such a difference if a little more care were bestowed in this way, and we should like to see village life organised to take this further pride in itself and set to work to tidy itself up.

The Late Mrs. Woodward.

MANY of our readers will, we are sure, sympathise with that well-known member of the architectural profession, Mr. Wm. Woodward, F.R.I.B.A., in the loss of his wife, who died during the past week.

GENERAL NEWS.

The Severn Barrage Scheme.

The Ministry of Transport states that, while it is impossible to state that the Severn barrage scheme will not be proceeded with at some future date when financial conditions are more favourable, there is no prospect of the scheme being carried out for some time.

The "Regent" Picture Theatre, Brighton.

Messrs. McLaughlin & Harvey, Ltd., of 24, Highbury-grove, London, N.5, are the general contractors for the "Regent" Picture Theatre, Brighton, illustrated in our issue for August 19. Mr. Robert Atkinson, F.R.I.B.A., is the architect.

The Sanitary Inspectors' Association.

At the annual conference of the Sanitary Inspectors' Association, which is being held at Bath this week, it was announced that Sir James Crichton Browne had resigned the Presidency of the Association, which position he has held for twenty years.

Purchase of Ken Wood.

The Ken Wood Preservation Council has been informed that the Earl of Mansfield has granted an extension till October 31 of the period during which the Ken Wood estate may be purchased for the public. This is an additional two months, and the Council is appealing for further subscriptions to complete the purchase.

The Builders' Clerks' Benevolent Institution.

At a meeting of the Builders' Clerks' Benevolent Institution, held on August 30, Miss Jessie Baxter, daughter of the late Mr. Jas. Baxter, of Streatham, was unanimously elected to a pension of £30 per annum. This is the first election of a spinster daughter of a late builders' clerk under the Rules of the Institution as revised last year.

Eastbourne College War Memorial.

Following the precedent established by many of the public schools, the Eastbourne College War Memorial Committee has decided that an Old Boy should be entrusted with the design and carrying out of the extensive war memorial buildings which are contemplated. In accordance with this decision, Mr. Geoffrey C. Wilson, A.R.I.B.A., a partner in the firm of Messrs. Bourchier, Tatchell & Galsworthy, has been appointed architect.

Norwegian Granite.

It is reported that a better quality of Norwegian granite, called "silver white granite," has been introduced in Aberdeen, and is now being used in preference to Kemnay or Creetown stone in cases where a white granite resembling marble is required. The *Aberdeen Free Press* states that the new stone is easier to work and whiter in texture than Kemnay or Creetown granite.

The Chinese Building.

Writing from Shanghai with reference to the article on "The Chinese Building," by Mr. George Cecil, in our issue for May 20, Mr. Julius Bradley states that the building then illustrated is the outer gate of the Tartar City at Pekin, known as the "Chien Men." The illustration, he states, is misleading as an illustration of Chinese architecture, "inasmuch as it has been unmercifully mauled about by a vandalistic German architect, who added eyebrows and other frills which have completely destroyed the character of what was originally a very noble and impressive entrance gate."

The County of Pembroke War Memorial.

The County of Pembroke war memorial is to be unveiled to-morrow, September 3. The memorial is erected in the county town of Haverfordwest, and consists of a monument of Forest of Dean stone standing in the public square. On four sides are cast-bronze panels, one of which bears an inscription, while on the other three appear the names of the 1,184 men of the county who fell in the war, with rank and regiment of each man. In smaller panels are the names of the chief sea and land engagements of the war. The monument is surmounted with the Welsh Dragon carved in stone. The monument is some 20 ft. in height. It has been designed by Messrs. Oswald Milne and Paul Phipps, architects, of London.

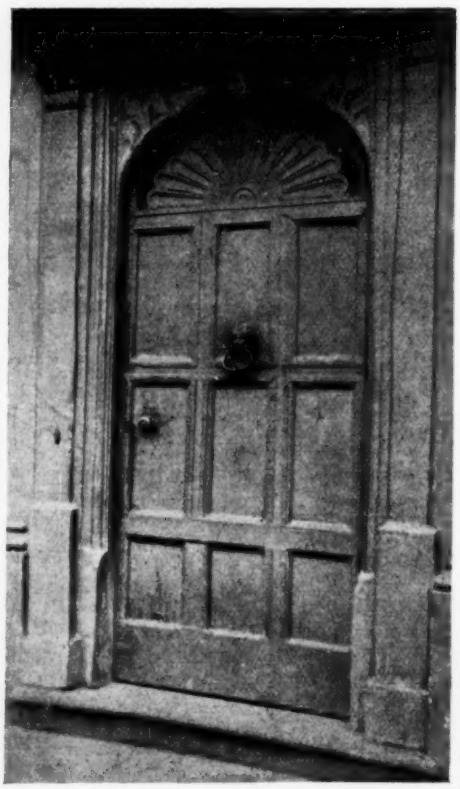
A Doll's House by Royal Academicians.

A doll's house, to be presented to the Queen, is being planned by a body of distinguished artists, carvers, and designers, to whom Sir Edwin Lutyens, R.A., will be architect and adviser-in-chief.

The collaborators include Sir John Lavery, R.A., Sir William Orpen, R.A., Mr. J. S. Sargent, R.A., and Sir George Frampton, R.A. The doll's house will represent the "perfect home," complete with central heating, wine cellars, nursery, and library. It is to be made on the scale of one inch to the foot, and full-length portraits of the Royal Family a few inches high are to be hung on the walls. There are to be tiny figures to represent the occupants—in this case the King and Queen.

The Dardanelles Memorial.

Lieut.-General Sir Aylmer Hunter Weston, who recently visited the Dardanelles on behalf of the National Battlefield Memorials Committee, has now submitted a detailed report. After inquiry as to the most suitable site it is recommended that the national memorial should be erected on Guezji Babi, an eminence about 150 ft. above the sea and 500 yards north-east of the Helles lighthouse, the highest point on the southern end of the peninsula. The report also makes suggestions as to materials for construction, and steps are being taken by the Imperial War Graves Commission to make all preliminary arrangements for giving effect to this report, so that the matter may be submitted to the Advisory Committee recently appointed by the Government at its first meeting in the autumn, when the question of design will be considered.



An Old Doorway.

Notice to Quit and Demands for Increase.

In reply to the letter by Mrs. R. Stewart in our Correspondence columns last week, in reference to the article on "Notices to Quit and Demands for Increase" in our issue for August 19, we have received the following from our legal contributor:—"I think your correspondent has mis-read the note on the case, Hill v. Hasler. The words he takes objection to, '*i.e.*, after a valid notice to quit has expired,' were intended to refer only to the facts of the case under consideration, and the whole note refers to notices during the currency of a tenancy.

"I do not quite follow your correspondent's observations on period tenancies in the last paragraph of his letter, but an existing tenancy must be determined in some way either by notice or otherwise before the landlord is in the position defined by section 3, subsection (1), 'but for this Act entitled to obtain possession.'"

COMPETITION NEWS.

Auckland.

The Council of the Auckland Institute and Museum and the Auckland War Memorial Committee invite competitive designs for a war memorial building which will contain the collections at present in the Auckland Museum. The *Journal* of the Royal Institute of British Architects states that the site is a park of 200 acres on Observatory Hill. The cost of the building is not to exceed the following alternative amounts: (*a*) For a building of permanent fireproof materials, £120,000; (*b*) For a building of permanent fireproof materials, with each elevation, other than those abutting on internal courts or areas or on the site of future extensions, faced with an approved building stone, £170,000. Premiums: First, £650; Second, £250; Third, £100. It is understood that should an architect be engaged for the building the author of the winning design will be given the work, in which case the premium will be deducted from the commission. Designs must be in the hands of the Secretary of the Council, Mr. T. F. Cheeseman, Princes-street, Auckland, by February 28, 1922. Architects in Great Britain are invited to compete. The conditions and schedule of requirements, together with the plan of site and levels, may be inspected at the R.I.B.A., 9, Conduit-street, W. 1.

Paisley.

FOR THE WAR MEMORIAL COMMITTEE.—Designs for a war memorial. (See our issue for August 12.)

Birmingham.

FOR THE WAR MEMORIAL COMMITTEE.—Designs for a war memorial. Sending-in day October 12. (See our issue for June 17.)

Cairo.

FOR THE EGYPTIAN GOVERNMENT.—Designs for the new Qasr el' Aini Hospital and School at Cairo. Sending-in day, October 3. (See our issue for April 8.)

Wandsworth.

FOR THE WANDSWORTH BOROUGH COUNCIL.—Lay-out schemes for a park and recreation ground. Sending-in day September 5. (See our issue for June 17.)

Partick.

FOR THE WAR MEMORIAL COMMITTEE.—Designs for a war memorial, at a cost of about £2,000. (See our issue for August 12.)

[Members of the R.I.B.A. and the Society of Architects must not take part in this competition until the conditions have been approved.]

CORRESPONDENCE.

Sentimental Ideas.

SIR,—The writer of "The World as we Find It," in your issue for August 19, seems to miss the implication of Professor Lethaby's article on "Modernism and Design," and there is a distinct flaw in his outlook when he tells us that there "is something rather fine in the idea of a single master-mind conceiving the minutest detail which helps to build up the complete entity." There is really nothing fine in such an idea at all, which is based on a rather discredited sentimentality and is part of the mistaken legacy of Victorian complacency. Is it not exactly this point of view which obstructs architecture? So long as the architect thinks he can be sufficient to himself will his output shrink to the poverty of his single mind. If mouldings and decorations are so bad when done by the builders and the workers themselves, as no doubt they often are, it is largely due to their having had all initiative taken away from them for so long in order to produce sterile facsimiles of the architect's office drawings. Design grows out of treatment, and the material itself will best suggest the forms in which it can be worked. As the architect in this sense is not a craftsman at all, he can have little knowledge of the resources of material, which can only be learned by working on them; he must therefore co-operate with others to realise his building, and cannot "conceive the minutest detail," which the writer thinks would be so fine!

No, Sir. It is in working through others, in enriching his own experience through other minds, that an architect best exhibits and develops his powers, and it is the want of this that obstructs him. It is because in so many cases the practice of architecture has shrunk to the poverty of the single mind that it so often loses the appeal which this finer communal conception of its service would procure for it. This point of view is little more than a survival of the old exclusiveness, and has all the weakness of such an ideal.

Unfortunately, trained in these ideas of ascendancy, the architectural student starts out with this dogma—and hampered by the idea of his own sufficiency is blinded to the necessity of fortifying his powers through others. Hence we see the tendency by many architects to work through the more accommodating hireling than the craftsman of power and independence. We do not think, however, that such a view finds much appeal now, when the younger men in the profession have learned to see the value of co-operation and the strength of the communal idea.

Architecture will gain immeasurably by this more democratic aim, because it will free it from those sterile and visionary notions which cling around the fallacious dogma of "the mistress art." "ISIS."

The Government's Future Housing Policy.

SIR,—Surely the time has come for all concerned in any capacity with the building industry to drop pettifogging side issues and combine in demanding the removal of the obstacles which make house building impossible for either the State, local authorities, or private enterprise. The failure of the national housing scheme, with the colossal waste of wealth and energy, is sufficient proof that no scheme, however clever and convincing on paper, can hope to be successful under the present impossible conditions. Put building on a sound basis and the trade will right itself without any further uneconomic remedies.

The Minister of Labour gives 132,000 as the number of unemployed in the building industry on July 15 last. The Minister of Health states that the curtailed housing scheme will employ all available labour for twelve months. Even with the present restricted output there are at least 30 per cent. fewer employed in building than in the year 1905. The artisan is genuinely afraid of unemployment, and the architect's prospects are even worse. All this at a time when it is admitted that there is sufficient work waiting to keep the whole building community employed for many years! Ever since the year 1836, when the burden of the rates was put upon building and improvements, the present crisis has been merely a matter of time. The continuous increase of local taxation, including charges for education, poor law administration, and countless other items, which should logically be paid by the Exchequer, had practically stopped investment building before the 'eighties.

The supply of smaller houses was, however, kept up by the development of land as building sites, the enhanced value of the land making up for lack of return on the actual building. This method, though by no means ideal, fulfilled its purpose until the land clauses of the Finance Act of 1910–11 brought its operation to an untimely end. Any such taxation must be coincident with the removal of existing taxation on improvements, and the result, as might have been expected, was deplorable. In the words of the "Tudor Walters Report": "Long before the war house building was no longer profitable." It is now not only unprofitable, but ruinous.

The Rent Restriction Act is even a worse example of building legislation. While destroying all security of house ownership (and with it house building), it entirely fails to protect the tenant from the indefinite raising of the rates. Restricted, uneconomic rents mean uneconomic assessments, and local authorities have been compelled to raise rates, instead of assessments, to meet the increased cost of administration. No doubt a comparatively small section of the community cannot afford economic rents, but this does not justify wholesale restriction. The Act fails to help the poor, and makes local finance, to say the least of it, difficult.

Admitting that the present system of rating is obsolete, so long as it continues those who can afford an economic rent and rate must pay to enable local authorities to meet their obligations at existing prices. The income of local authorities depends to a considerable extent on a normal supply of new buildings. The falling-off of the latter is cutting off this supply of increased rateable value and forcing up the rates on existing property. Apart from its effect on housing, the present method of local taxation is indefensible. It is neither fair, progressive, nor financially sound. No account is taken of ability to pay; and this, as proved by the financial straits of some of the London boroughs and local authorities all over the country, is fast leading to the bankruptcy of local administration. The slum dweller, who may be out of work half the year, is taxed at the same rate as the millionaire. The owner who improves his property, whether for the benefit of his tenants, his workmen, or himself, is indiscriminately fined. Slums, dilapidations, and cramped workshops, under these circumstances, are inevitable. It is futile to babble about "improved conditions" while such a system exists. Perhaps a more telling point from the official point of view is the fact that a considerable number of the community, well able to subscribe, avoid payment altogether.

An immediate and drastic reform of our whole system of local taxation is vital to housing and the interests of the community.

E. G. HOLTOM.

London Unique: Through Roads.

SIR,—A distinguished professor in town-planning once remarked to the writer that "nothing should stand in the way of making London what it ought to be." As an example, there is Professor Adshead's "clearing" of a frontage for the British Museum, which appeared in *The Builder* some years ago.

London, like most other cities, ancient and modern, up to the present time has been described as an "agglomeration of mean streets," and is, at its present stage of development, practically virgin soil for the purposes of the planner, with some exceptions. It has been "drop ripe" for traffic improvement for several decades, but the condition requisit to an advance has not yet been recognised; when that happens, and the psychological moment does arrive there will be "a wonderful kicking about of old bricks."

Suggestions for a new underground system were referred to in last week's issue of *The Builder*. In that connection a west to north and east section from Hammersmith to Wood Green will now be described. Possibly it will develop into another "circle." It would commence at the Metropolitan station at Hammersmith, and follow and absorb the track of that railway to Westbourne Park. The first section would debouch at the "Prince of Wales," Harrow-road. The second practically exists. Elgin-avenue and Abercorn-place to Abbey-road would be utilised; whilst the area of the third from the latter point to Haverstock-hill at Prince of Wales-road *via* the northern boundary of Primrose-hill would be replanned. Thence section No. 4 would be directed to the railway confluence at Gospel Oak. No. 5 would be between the latter point and Tufnell Park-road. No 6, the remainder of the route to Muswell Hill and Wood Green, need not be defined, as there are alternatives. There is also a choice of routes on some of the other sections, as also branches. "O. B. I. T."

Suggested Scheme of Aid to Builders.

SIR,—The figures which Mr. Gilbert H. Lovegrove sets forth in his letter published in *The Builder* for August 19, and upon which he bases the assertion that a far higher weekly rental than that which I suggest should rule as a maximum under my scheme, *viz.*, 15s., hardly bear analysis.

First as regards rates. The maximum weekly rental figure I proposed was not intended by me to include rates. If rates were included the maximum inclusive weekly rental recommended would be 20s. per week, that is to say, some 6s. per week less than rentals (including rates) now generally ruling for houses built under the national housing scheme.

Then, again, Mr. Lovegrove deducts as an "outgoing" the proposed annual loan repayment instalment of £10. More properly, and necessarily so, these repayments are allocations to capital from income, and not "outgoings" in any real sense of the word. Deducting taxes (£14 9s.), and loan instalment repayments (£10), or £24 9s. in all from Mr. Lovegrove's figures of annual "outgoings" per flat, which he makes out to be altogether £32 5s., leaves, on his figures, a net annual profit of £31 4s., instead of £6 15s., to the speculative builder on every £200 invested by him.

I venture, however, to disagree with Mr. Lovegrove's figures which go when amended to indicate such a large return, as they omit some important items, such, for instance, as proportions of ground rentals per flat, and depreciation and collection charges, that should properly be placed among the "outgoings."

If these are to be added to the other proper "outgoings" detailed by Mr. Lovegrove it will be found on the average, I think, that as against an investment of £200 per flat in building operations if my scheme were put into operation the speculative builder would receive a safe net income of about £20 per annum, and that furthermore if at any time he found it necessary to realise his investment he would easily be able to do so for a substantially larger sum than that which he invested.

May I point out in conclusion that, as the vital necessity in the building industry to-day is again to induce investors to realise that there is still money in speculative building, and that, too, consistently with the building of houses that can be let at economic rentals in these times and if the right conditions are rightly provided, it is singularly unfortunate that anybody of responsibility and standing connected with the building industry should seek to prove—through putting forward wholly inaccurate figures of "outgoings"—that money invested in building, even with the aid of advances free of interest, cannot earn for itself adequate return. EDMOND J. FREWEN.

REALISM.

By Reginald Hallward.

At first sight the discussion of such a subject as that of Realism would seem to be outside the domain of architecture. It denotes, however, a temper of mind and outlook that in its application affects architecture; and if the student is to include in his training a knowledge of painting, it is important to consider the kind of influence that he may expect to get from it. The controversies of a generation or more ago wear a somewhat faded aspect at the present time, but the subject of Realism is of interest to architects if only for the effect of such a theory upon mural painting. Realism justified the supposition that painting would override the restraints which arise out of its conjunction with architecture. The inadequacy of mere craftsmanship was not felt by the realist—its theory was that of good workmanship and truth to Nature; that as it lies in a man's power to be a good craftsman, therefore workmanship is his chief concern. It exalted the means as the end, and narrowed the field of workmanship to include just so much as it could conceive of Nature or art. Thus it missed both. Art is Nature transmuted through the artist, or in the phrase of Goethe: "Art is art because it is not Nature." Seeing with the eye only, Realism was the child of its time, and became the expression of its materialism; no longer nourished by any endowment from within which answered to the needs of art, the Realist narrowed the field of workmanship to what was without him.

In looking to Idealism as an alternative to Realism, do we touch the heart of the matter? The idealist, passing to the other extreme, and lacking the steadying quality of searching craftsmanship, is often inarticulate and visionary, so losing content within his work. Are they both of them, after all, any more than symptoms—effects of causes out of which they grew, and by which they were propelled?

It was not only painting, however, which had lost touch with life and reality. The dilettantism of the time left its mark on architecture also, which suffered under a culture lacking in direct experience, which was almost wholly theoretic, and enervated by "taste"; and we have to see—so little is its self-knowledge—at one and the same time, the dogma of the "mistress" art proclaimed alongside of a discussion as to whether architecture is a "profession" or an "art." There is a gulf fixed between this old complacency and pretension and the present time. Leagues of youth, and the revolt against all but direct experience, the repudiation of the omniscience of middle age and authority, are but a stage in disentangling us from the dilettantism of the superior person "who knows"—and a culture which was often but the expression of the Philistinism of its time. It was not surprising that architecture, fearing the influence of Realism, should seek to protect itself from the onslaughts of this new Philistinism. It lacked itself, however, a comprehension of the true needs of art, and for the want of this enlightenment fell into the midst of an equal error. It invented a formula for wall painting which was to be flat—though flat tints are not painting. Painting was to conform to a recipe, and the direct experience of the artist was to yield to a formula. If the inadequacy of mere craftsmanship was not felt by the realist, the inadequacy of mere rule and formula was not felt by the architect. Assuming Realism to be the alternative of this "flat" wall painting theory, the true nature and relation of painting to architecture was missed; which does not lie in any theory, but in life itself. So architecture and painting drifted apart.

We have become impatient of theory and the superior person nowadays, and look for results through a more direct experience, and in doing so we find much that no longer answers to present needs. We shall best understand the source of these theories by tracing them in the national life. In the collection of pictures of the Chantry Bequest at Burlington House we find an instructive object lesson. In these pictures we see through the Victorian period a gradual change developing in the temper and outlook of the painter, his art becoming detached from its own world, and shaped more by the influences of the time. Instead of resting on itself, it comes down into the street. It seems to have made a bargain with the world, its objects becoming more and more the same. The picture, like commerce, became more and more competitive, lacking inward discipline, and art surrendered to the market place. If this seems an exaggeration, who will doubt but that success rather than service was the dominating influence, accompanied by an inevitable and growing detachment of art from life?

The theory of the realist, based on workmanship, made this the artist's chief concern, because what we are we cannot govern, being unknown to ourselves—as though, in the phrase of Shakespeare, "we were villains of necessity." But human nature is also plastic and capable of being wrought, being part of Nature itself, and a theory which discounts the man for the craft makes of art, as Plato saw, a very low thing. It is therefore the more encouraging that in all essential ways, and in spite of pessimism, art is showing new vitality and absorption in the things that matter, which are not those of fashion or popular demand, except and in so far as these lead towards the uniting and ennobling of human life, to the beautiful and the true.

There is a saying of Goethe's that "it is the business of the artist to raise Nature to the level of his own creations." Of this kind of workmanship the realist has never conceived. Hence it is that art cannot be divorced from character. Once back on this sure foundation we see the domain of art to be founded on no "ism," Realism or any other. Is it not really much simpler than all this? A man is affected by something he sees or feels, and desires to give form to it so that he may affect others with what he himself has felt. That workmanship is, then, the finest of all which best unites vision with reality. All art is embodied in workmanship, but the best art comes out of the best experience, and is founded on personal nobility. Neither of these dividing terms, Realism or Idealism, announces much more than the detachment of art from life and reality. The alternative lies not between them, but in superseding them. If the architectural student is to gain from his contact with the painter he must rest it on the sure foundation that in spite of all the strident sophistries about art it is really a simple thing, and that the art of the painter, like that of the architect, finds its strength in vision and outlook, in a service which is fortified by personal nobility and public spirit.

ST. JOHN THE BAPTIST, INGLESHAM.

The vicar and churchwardens of the old Church of St. John the Baptist, Inglesham, Wilts, appeal for funds to repair the roof. Mr. Masters, the Diocesan Surveyor, states in his report that "the work ought to be done at once otherwise the rain will come through and rot the timbers." The Society for the Protection of Ancient Buildings has approved Mr. Masters' specification, and strongly supports the appeal, to which it has promised a subscription of £5. William Morris wrote: "We went to Inglesham . . . . to look at the church, a lovely little building, like Kelmscott in size and style, but handsomer, and with more old things left in it."

The cost of the repairs so far as known at present is likely to be about £50, and any amount collected beyond this sum is to be strictly devoted to the fabric fund, which is in need of contributions. The parish is a small and entirely agricultural one of 146 inhabitants, and quite recently it has been necessary to enlarge the churchyard, which has involved a considerable expense. Subscriptions may be paid into Lloyds Bank, Lechlade, or will be received by the Rev. F. J. Girling, Inglesham Vicarage, or by Messrs. A. H. Reynolds and F. Kinch, churchwardens, Inglesham, Lechlade, Glos.

An illustration of the Church is given on p. 276.

Prisoners-of-War Camp, Thetford. (*See p.* 281.)

PRISONERS-OF-WAR CAMP, THETFORD.

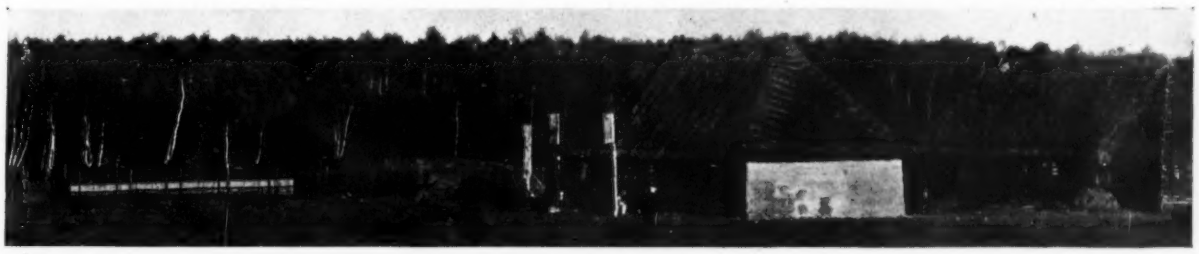
THE huts at the Thetford (Norfolk) Prisoners-of-War Camp were constructed by Messrs. Baldry, Yerburgh & Hutchinson, Ltd., of Lower Edmonton, in 1917, to house several hundred German prisoners of war and the guard for timber-felling operations for the supply of pit-props to the Yorkshire Pitwood Association, Ltd.

At the time the camp was erected there was an acute shortage of timber, and owing to the urgency with which the timber was required the contractors decided to adopt the "Kaffir kraal" construction.

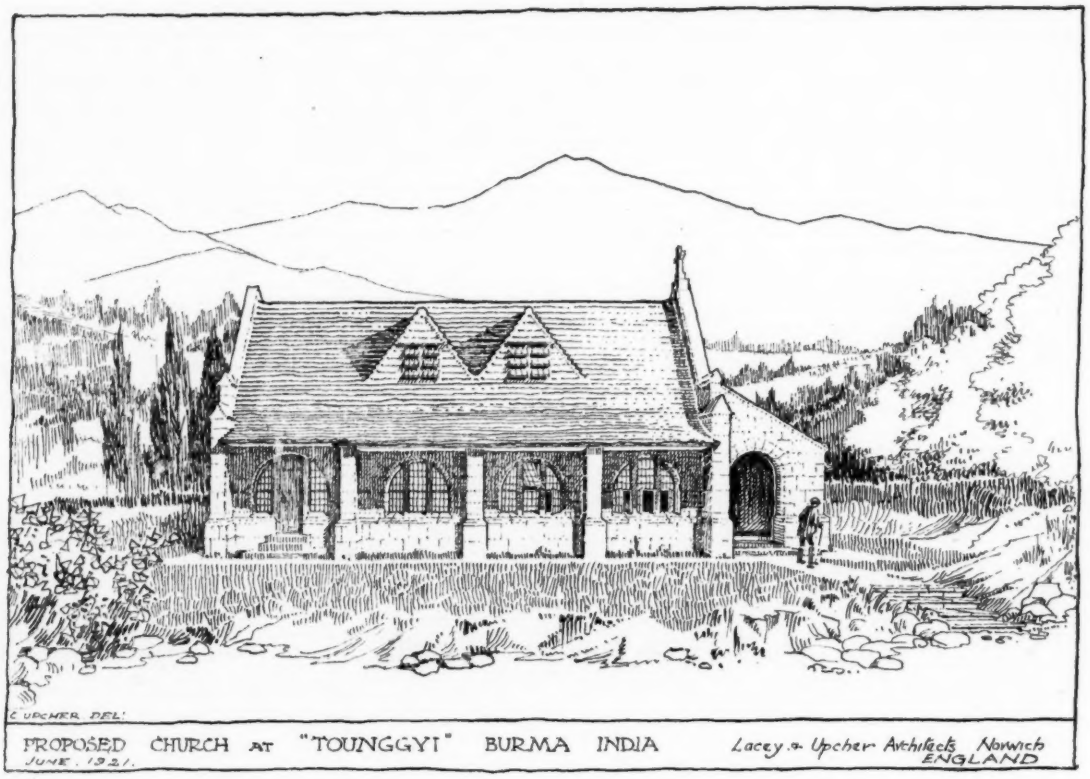
The walls were formed of poles from 3 in. to 2½ in. diameter spaced 2 ft. apart, and these were then lathed on each side with branches, the space between being packed with heather and bracken. The walls were then rough-cast inside and out with lime plaster, clay not being available. The roof trusses were made to template also out of mall timber (valueless) and thatched with reeds cut in the water meadows of the adjacent river.

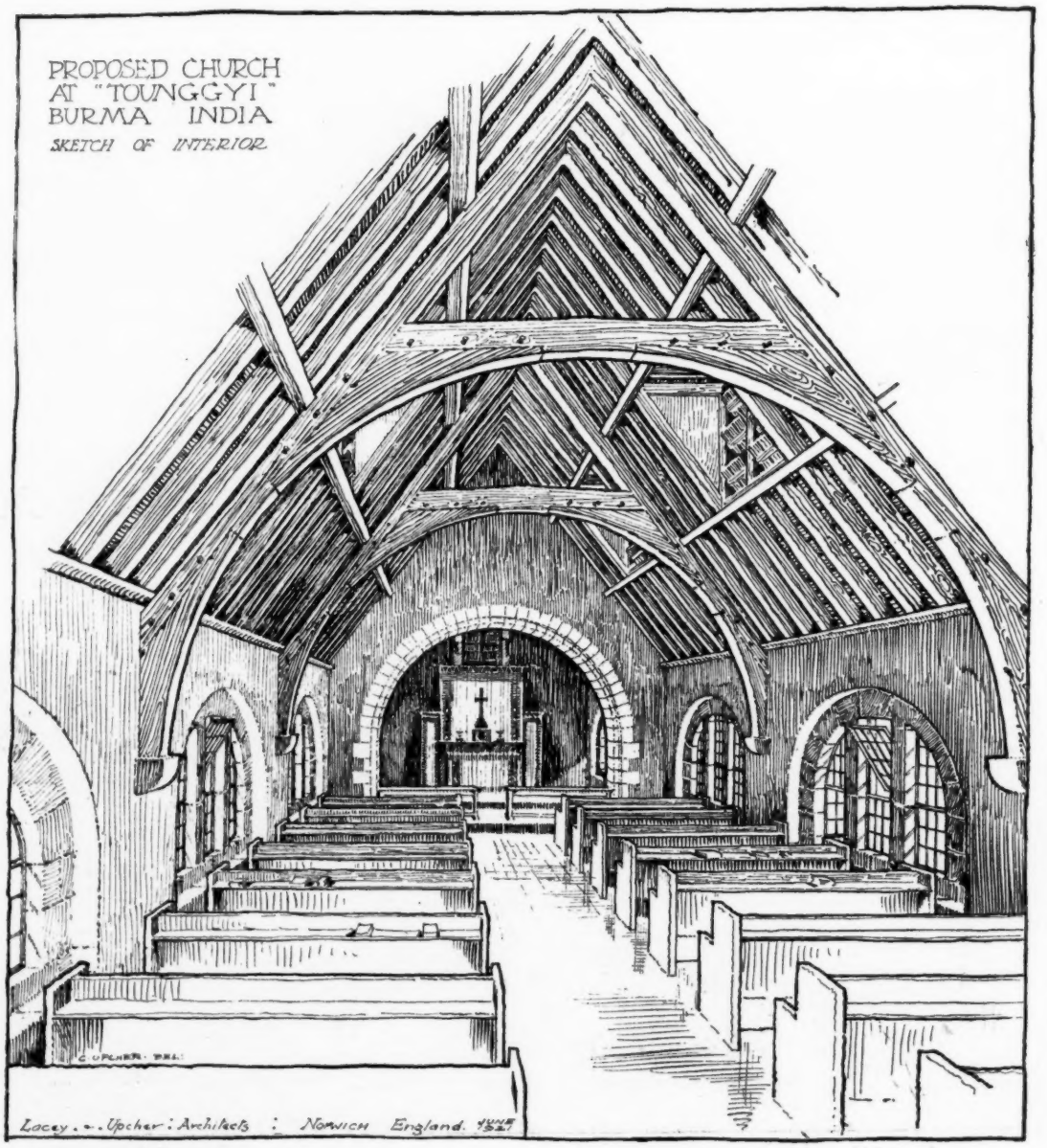
The men proved very adaptable. The thatching, however, had to be done by skilled thatchers, the German method of making mattresses to be fastened to the lathing being too slow and unreliable. Simple joinery was also bought, but the bulk of the floor boards were cut from the woods by the contractors' own mills. The heating was by two slow-combustion stoves to each hut, and they proved thoroughly warm and comfortable. The chief anxiety, that they might harbour vermin, was not realised.

This camp was of considerable interest at the time, and the firm later carried out for the War Office a large camp at King's Lynn, though on a rather more elaborate scale, on the same principle. It was found cheaper eventually to use sawn laths instead of branches, and chicken wire gave good results. The contractors were allowed five weeks to construct sufficient huts for 200 men, and the work was finished with one day to spare. Besides sleeping huts for guard and prisoners, mess huts, canteens, bath huts, and offices were provided. The prisoners made themselves some rustic furniture and basket work, for which they used long pine roots cut into strips. The camp has since been removed.



Prisoners-of-War Camp, Thetford.





Proposed Church at Tounggyi, Burma MESSRS. LACEY & UPCHER, Architects. (*See p.* 283.)

THE BUILDERS' LABOURER IN THE TIME OF HENRY VIII.

THE labourer held the lowest rank amongst builders' workmen, but, as we shall see, he was at times a trusted messenger and occasionally the owner of a horse. In the time of Henry VIII the wage paid him was, with few exceptions, almost invariably 4d. a day, but the demand for labour in agricultural districts during the months of June, July, and August enabled him sometimes to obtain 5d. Occasionally, though very rarely, wages were paid partly in money and partly in food. The following references a e examples of such practices, but the amount paid—6d. a day when food was supplied, and 8d. a day when no food was given—is largely in excess of the common wage; the amount is, in fact, just double the usual earnings, and such a high rate of payment stands alone, a solitary instance:—

"Item payed to John Ayshton, laborer, for his labor vi days with mete and drynke att his owne charges the same wyke, att vid. the day, iiis."

"Item paid William Towman for his labor and mete and drynke iii days the weke then next folowyng, at viiid. the day, iis." (Record Office *Exch. Acc.* 479–26.)

The cost of a labourer's food is seen here to amount to 2d. a day, no less a sum than one-fourth of his wages, and although the entries in question are exceptional we shall see again an exactly similar estimate of the proportion between money and food in an instance where the wage is, in the aggregate, the usual sum. In MS. 464–23 a labourer gets 6d. and his "bord" for three days' work, the board being entered in the accounts as also costing 6d. Here we see the common wage is arrived at by charging half the wage for the "bord." It certainly may be that the "bord" in this case means both board and lodging, but it is not so stated.

We may now turn to a builder's account book kept by a clerk of works in the time of Henry VIII. (Record Office *Exch. Acc.* 504–2). The accounts in this manuscript are divided into certain periods, and in each period the sums of money which were paid out to the various workmen are entered with a description of the work done for the money given. Each workman's name is set down under the proper heading—carpenter, carpenter's labourer, plumber, plumber's labourer, and so on. We are thus able to see what sort of work was executed at any time by any craftsman or labourer.

Under this heading of "Common Labourers" we read:—"Comen laborers laboringe as well as helpinge the sawyers with ther tymber logges to ther pyttes, carringe awye the said tymber and plankes from them and siruynge the carpenters with tymber and plankes, as also dyginge the foundacions for a newe iaques [cesspool] and in voydinge of rubusshe from thense and from all the workmen ther, and in lyke mannour scaffoldinge for the breeklayers for raysinge of the chymneys, with also helpinge the plomers as well to serch the condithe pipes [that is, searching for a leak in the conduit water pipe], as also heatinge of there irons, with other labours ther done." We also see in another place that the labourers were paid for clearing away "rubyshe from where as the werke men had wrought."

A number of plasterers' labourers were paid for "beringe of water, slackinge of lyme, makinge of morter, temperinge of lome, beatinge of here [hair], and seruynge the saide plasterers with morter and lome here and a'so scaffoding for them."

A number of bricklayers' labourers were paid for "laboringe as well in syftinge of lyme, beringe of water, slackinge the saide lyme, makinge of morter and seruinge the said bricklayers with morter and lyme," at 5d. a day.

Tilers' labourers worked "in pynnyng and makyng clene of tylys for the tylar to tyle with and moreouer carriyng of water unto the morter hepe, with working, chaffyng and making of morter for the tylar to tyle with, with forther in seruyng the said tylar with tyle and morter as in making clene and carrying out the rubbyshe of the tylyng." In MS. 501–5 we see that a labourer is paid 8d. for serving the "helyour" (tiler) for four days, and that 8d. is also expended "for his mete and dryng."

We read of carpenters' labourers "removing and rowlyng of tymber vnto the sawe pittes for the Sawyars to sawe," and "pullyng out of nayllys out of olde tymber for the sawyars to sawe." In MS. 488–16 we read of a labourer assisting the carpenters to take down old timbers and replace them with new.

The plumbers' labourers broke the ground for the plumbers to get at those pipes of lead which were underground, and they also heated the plumbers' irons and carried the lead as required.

Shinglers' labourers assisted the shinglers to set the wooden tiles. They were rarely in evidence, for shingling was not a common method of roofing. When employed, however, they helped the "shinglers to carry and beare shyngle," and executed various other duties

Memorial to W. C. Stocks, at Feston, Leicestershire.

MR. PHILIP A. ROBSON, F.R.I.B.A., Architect.

In our account, however, we find only one shinglers' labourer engaged, his wage being 5d. a day.

Paviors' labourers helped to unload the gravel from the carts and carry it to the paviors, "where as they wrought." They also made clean the ways and the courts.

Our MS. does not tell us under a proper heading the duties carried out at any particular time by masons' labourers, but we may believe the description of work done by the bricklayers' labourer to apply virtually to that carried out by the masons' labourer. MS. 488–26 tells us that certain labourers made the mortar and served the masons. In MS. 488–16 a labourer carried clay and stones up to the walls. Another carried materials "with his own hors," receiving 6d. a day instead of the usual 4d. Sixpence a day was a common rate of payment where the labourer found the horse. Another labourer helped "to wynde vp tymber and leade to the said rof," evidently using a windlass. In MS. 488–30 they wind up sand and boards. In MS. 545–30 we read of them engaged in felling timber. In MS. 489–17 they served the slaters with pins made by themselves, still, however, receiving no more than the usual 4d. Labourers are often referred to as "hevyng" material. In MS. 488–27 we see that a labourer worked at times as a dawber. In this case the labourer, Peter, was employed in "makynge dawbe" and "wyrkynge in dawbe and on stone walles." In MS. 489–7 we read of a labourer being sent as a messenger from Beaumaris to the Abbey of Whalley and back, a distance in all of 200 miles.

THE ROYAL COLLEGE OF ART.

FOR many years a class in Etching and Engraving has been conducted at the Royal College of Art under the direction of Sir Frank Short, R.A. Hitherto the class has been open for students on two days in the week, but it has now been decided to extend the range of the processes of reproduction in relation to which instruction can be obtained at the College, and to open the class on additional days. A School of Engraving will thus be provided at the Royal College of Art parallel to the existing Schools of Architecture, Design, Painting and Sculpture, in which full-time students will be able to specialise for the greater part of the time, devoting the remainder of their time to those branches of artistic study which are prescribed in common for all students. External students may still be admitted, so far as there is room, for part-time study in the School. Arrangements will be made for the issue of certificates in each of the following methods:—etching, aquatint, mezzotint, line engraving, wood engraving, and lithography, and a student obtaining all six certificates will be entitled to the Diploma in Engraving. Sir Frank Short, R.A., will continue to be the Professor, and Mr. Thomas Derrick, A.R.C.A., has been appointed to give instruction in lithography, wood engraving and etching.

As an outcome of the endeavour which has been made by the Principal of the College (Professor W. Rothenstein, M.A.), in consultation with the Federation of British Industries, to establish closer relations with artistic industries, it has now been arranged that a limited number of designers or craftsmen can be received for short courses, which will comprise instruction from the staff of the College and study under direction in the Victoria and Albert Museum. These arrangements will, for the present, be open only to those students who are sent by their employers and continue to receive remuneration during attendance at the College. As an experimental arrangement the students will be admitted at a special fee of two guineas for each month, or part of a month, in their period of study.

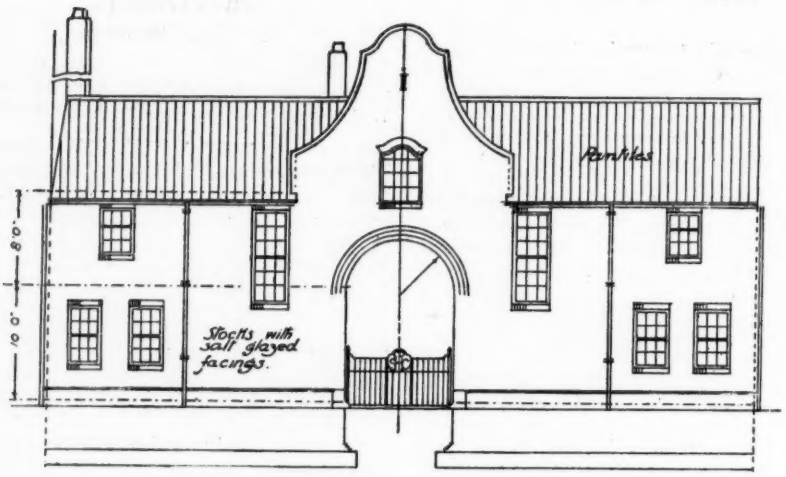
In view of the general revision of fees in Colleges of a like standing, it has now been decided that the fee for a year of full-time instruction at the College for all new full-time students shall be thirty guineas instead of £25 as hitherto. So far as there is room part-time students will as before be admitted to some of the craft classes of the College, and a fee of three guineas per term for each day of attendance per week will be charged to every such student next session.

A revised prospectus of the College, containing particulars of these new developments, will shortly be issued.

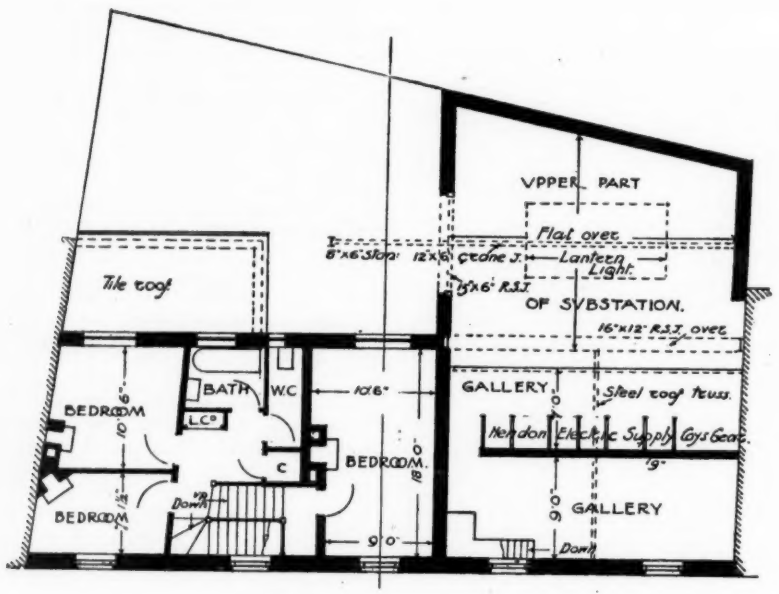
PROPOSED CHURCH AT TOUNGGYI, BURMA.

THE proposed church at Tounggyi, Burma, illustrated on page 282, is to be built of stone, and the roof covered with teak shingles. Double dormer windows with louvre boards are provided on either side of the nave roof to give plenty of ventilation, and the windows in the east and west gables are also to be fitted with louvres. Wide eaves, projecting 4 ft., are intended, the soffit being plastered. The roof is to be constructed of teak, and the walls plastered internally to within 2 ft. from the floor, the remaining portion to be of stone. The roof of the sanctuary is to be of cross-braced open timber, and the nave is to seat seventy persons. The baptistery is flanked on either side by a vestry and entrance porch, to be roofed with a lean-to.

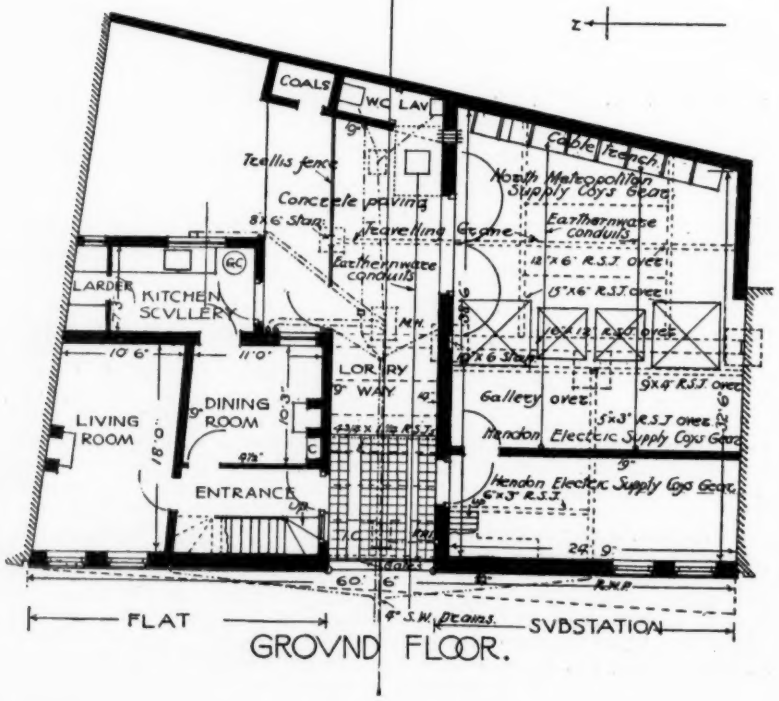
The architects are Messrs. Lacey & Upcher, of Norwich.



ELEVATION to FINCHLEY RD.



FIRST FLOOR PLAN



GROUND FLOOR.

Sub-Station at Childs Hill.

MR. W. W. SCOTT MONCRIEFF, F.R.I.B.A., Architect.

SUB-STATION AT CHILDS HILL.

THIS little building, which has just been completed for the Hendon Electric Supply Co., Ltd., stands on the east side of Finchley-road at the summit of Childs Hill. The site is a very small one, and it was difficult to provide the accommodation required upon it.

The building is divided into two parts, the sub-station portion and the house of the manager of the station. The sub-station portion contains accommodation for the necessary electrical gear. A travelling crane is arranged overhead to run across the sub-station and through the centre of the double door into the lorry way for the purpose of unloading and fixing or removing and loading the transformers. The main cables run under the lorry way and into the trench shown at the back of the sub-station. It is built of stock bricks with salt-glazed facings, and the roof is covered with pantiles.

The sub-station is used as a point at which energy to an ultimate maximum of 3,000 k.w. (4,000 h.p.) will be transformed from 10,000 volts to 2,800 volts by the North Metropolitan Electric Co. and supplied to the Hendon Electric Supply Co. in the building at that pressure. The Hendon Electric Supply Co. distributes i. from the building at 2,800 volts by means of cables to secondary sub-stations at distances of from one to three miles away, at which points it is again transformed to 240 volts and 415 volts for lighting and power respectively. The Hendon Electric Supply Co. also re-transforms a portion of the energy in the building to supply light and power to the surrounding district. Main cables supply the energy from Willesden and Brimsdown Generating Stations.

The switchgear against the east wall is for operating these cables and the energy from them to the transformers, which are in a row (two 1,000 k.w. and two 500 k.w. each) in the centre of the transformer room, and to this switchgear branch cables could also be coupled to carry the 10,000-volt supply to other centres later on if required. The current from the 2,800-volt side of the transformers is switched and measured by the switchgear on the east side of the gallery wall and underneath the gallery platform, and is then conveyed through the gallery wall at the north and south ends to the Hendon Electric Supply Company's switchboard on the west side of the gallery wall, from which cables convey it to Cricklewood, Golders Green, Temple Fortune, &c.

The transformers for the further reduction in pressure for the supply to the surrounding district are placed below the Hendon Electric Supply Company's switchboard, and the low pressure switches, &c., for operating the current from them are fixed on the west wall of the building between the two windows. The whole of the North Metropolitan Company's switchgear has been supplied and erected by Messrs. Ferguson, Pailin & Co., of Manchester. The Hendon Electric Supply Company's switchgear has been supplied by Messrs. Crompton & Co., Ltd., Chelmsford, and enclosed in steel cubicles and erected by the Company. The windings of the transformers are immersed in tanks of oil, cooled by natural air draught. The general building contractor was Mr. William Tout, of Brent-street, Hendon.

The architect is Mr. W. W. Scott-Moncrieff, F.R.I.B.A., of 11, Gray's Inn-place, W.C. 1.

Gretna to be Sold.

It is reported that the township of Gretna, built by the Government during the war for the manufacture of munitions, is to be sold, either in one lot or in sections. The town covers 9,200 acres, and the total cost, including the factories, was about £10,000,000. In addition to the works, distilleries, laboratories, &c., there are at Gretna 312 houses, 60 hostels, 6 churches, 2 picture theatres, 2 halls, a communal kitchen capable of catering for 14,000 persons daily, a laundry with a capacity of 6,000 articles per day, 78 miles of standard gauge railway track, 47 miles of narrow gauge railway track, and a waterworks with a capacity of 10,000,000 gallons per day.

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ILLUSTRATIONS.

Radley College War Memorial.

Part of the sum raised to commemorate the Old Radleians who fell in the late war was devoted to the erection of a monument. This has taken the form of a gateway, designed by Sir Thomas G. Jackson, Bt., R.A., which is shown in our illustration, taken from the drawing in this year's Royal Academy Exhibition. There is a double archway between two octagonal turrets, one of which contains a stair leading to an upper chamber and to the flat roof above. The room will be occupied by a small museum of objects connected with the war and the fallen, whose names will be inscribed on a tablet under the archway.

The general contractors are Messrs. Mussell-white & Son, of Basingstoke, and the carving will be by Messrs. Farmer & Brindley, of London.

Chapel, Brighton Training College.

These sketch plans for a new chapel for the Diocesan Training College at Brighton are reproduced from Mr. Burke Downing's pencil drawings in this year's Royal Academy Exhibition.

Villa on the Riviera.

The illustration of a villa on the Riviera, by Mr. Alfred B. Yeates, F.R.I.B.A., is from the Royal Academy Exhibition, 1921.

Rudge Hill House.

The additions to this house consist of a hall, drawing-room, library, an enlargement of the dining-room, and several new bedrooms. The interior arrangements of the old part of the house have been remodelled. The house stands upon steep-falling ground, and a new terrace has been made along the east side. Local stone with a brick inner lining has been used for the walling, and the roofs are covered with stone slabs. The builders are Messrs. Downing & Rudman, of Chippenham, and the architect is Mr. T. Tyrwhitt, F.R.I.B.A., of 3, Arundel-street, Strand, W.C. Our illustration is from the exhibit at this year's Royal Academy Exhibition.

Reredos at All Saint's Church, Hursley.

The reredos at All Saint's Church, Hursley, Hants, illustrated from the exhibit at this year's Royal Academy Exhibition, is by Mr. A. G. R. Mackenzie, F.R.I.B.A.

Liverpool School of Architecture.

We illustrate this week the Holt Travelling Scholarship Measured Drawings, by Mr. A. B. B. Jobling, and a design for a library over a loggia, by Mr. Stephen Welsh. Mr. Jobling and Mr. Welsh are students at the Liverpool University School of Architecture, of which Professor C. H. Reilly, M.A., F.R.I.B.A., is the Head.

OBITUARY.

Mr. James Matthews.

On August 24 there passed away, at the age of 88, a somewhat remarkable man, well known both in the building and musical world, in the person of Mr. James Matthews. For forty-seven years he was one of the building managers in the firm of George Trollope & Sons, and later in that of Trollope & Colls, Ltd. During his long business career he was engaged in the construction of many important buildings in England and abroad, including the new Claridge's Hotel and the Baltic Exchange. Mr. Matthews, in addition to being a practical builder, was an accomplished surveyor, and in both capacities he during his long life met numerous members of the architectural and surveying world, by whom he was much esteemed. His musical attainments were exceptional.

Mr. Axel Herman Haig.

The death has taken place of Mr. Axel Herman Haig, the etcher, aged 85. In his youth Mr Haig studied naval architecture at the Swedish Naval Dockyard at Carlskrona, and, coming to Scotland, he held situations under the architect to the Ecclesiastical Commissioners, William Burges, A.R.A., and other architects. He did many water-colour drawings, lithographs, designs for churches, and mural decorations, but for the past thirty years he had devoted himself to etching, particularly of cathedrals and ancient buildings in England and on the Continent. He was a frequent exhibitor at the Royal Academy and other English exhibitions, as well as at foreign galleries, and received many gold medals and diplomas.

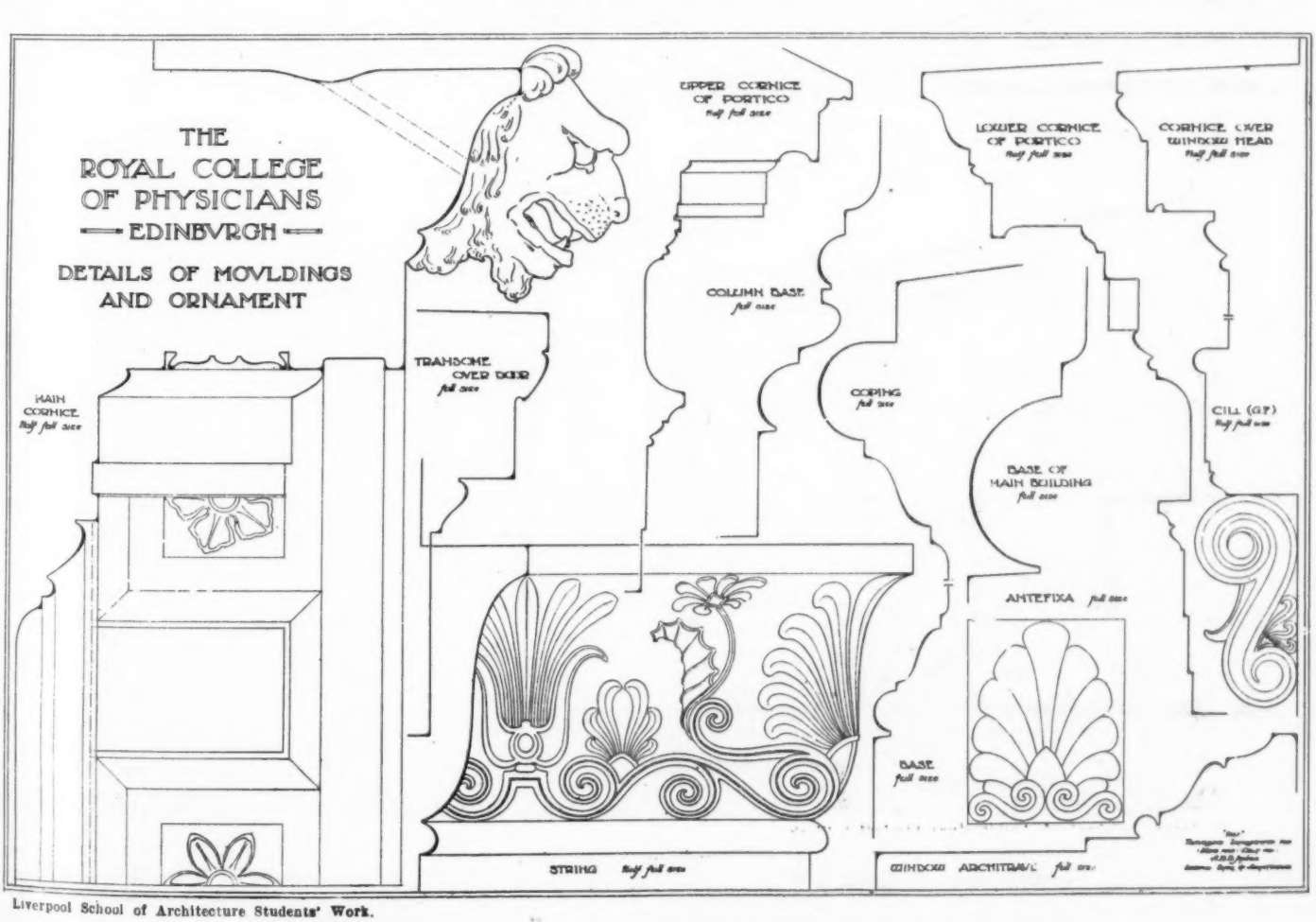
MEETINGS.

TUESDAY, *September* 6.

Liverpool Architectural Society.—Visit to Match Factory, Garston. 4 p.m.

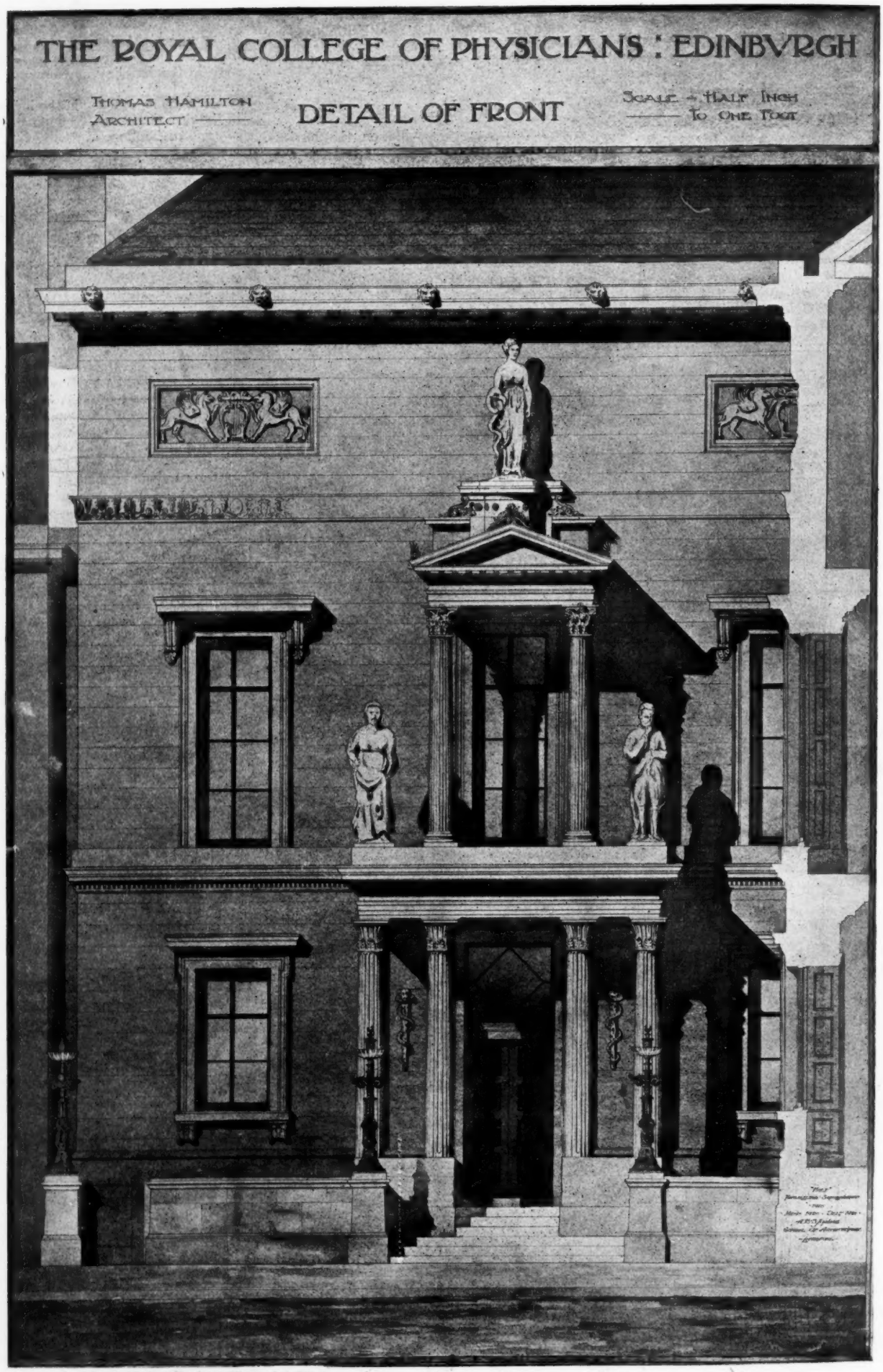
WEDNESDAY TO FRIDAY, *September* 7 to 9.

Auctioneers' and Estate Agents' Institute.—Annual Provincial Meeting at Birmingham.



Liverpool School of Architecture Students' Work.

Holt Travelling Scholarship : MEASURED DRAWING BY MR. A. B. B. JOBLING.



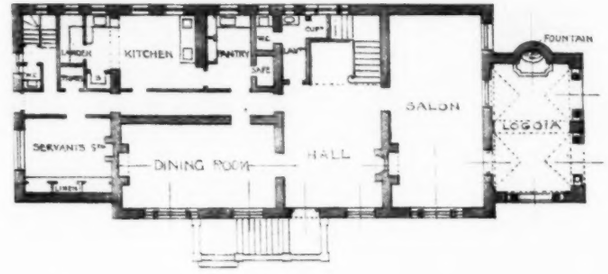
Liverpool School of Architecture Students' Work.

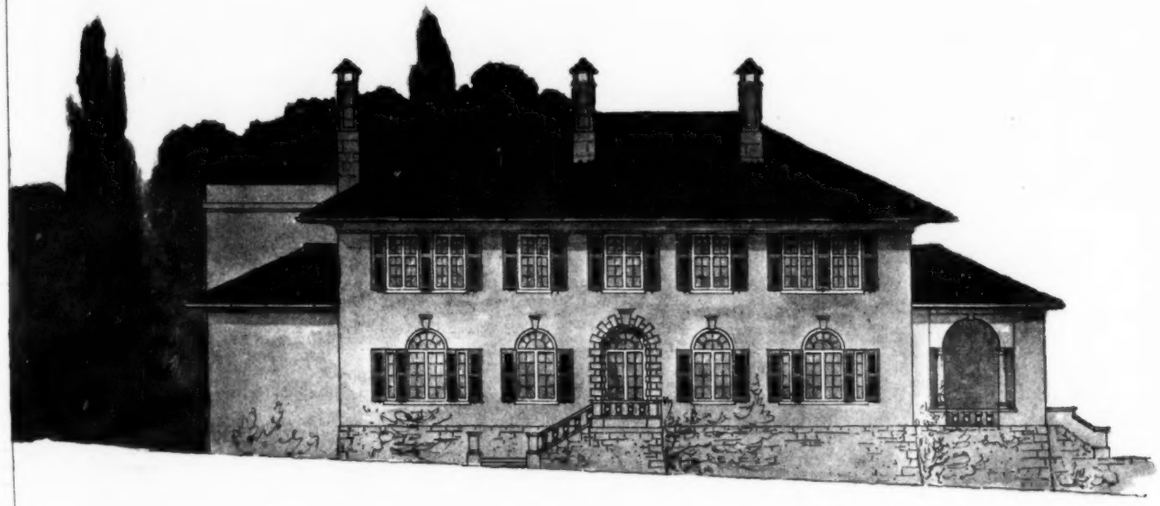
Holt Travelling Scholarship.

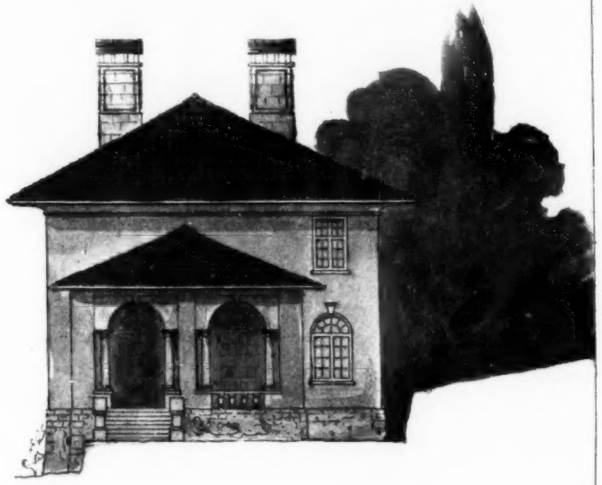
MEASURED DRAWING BY MR. A. B. B. JOBLING.

A VILLA ON THE RIVIERA

– ALFRED B. YEATES ARCHITECT –







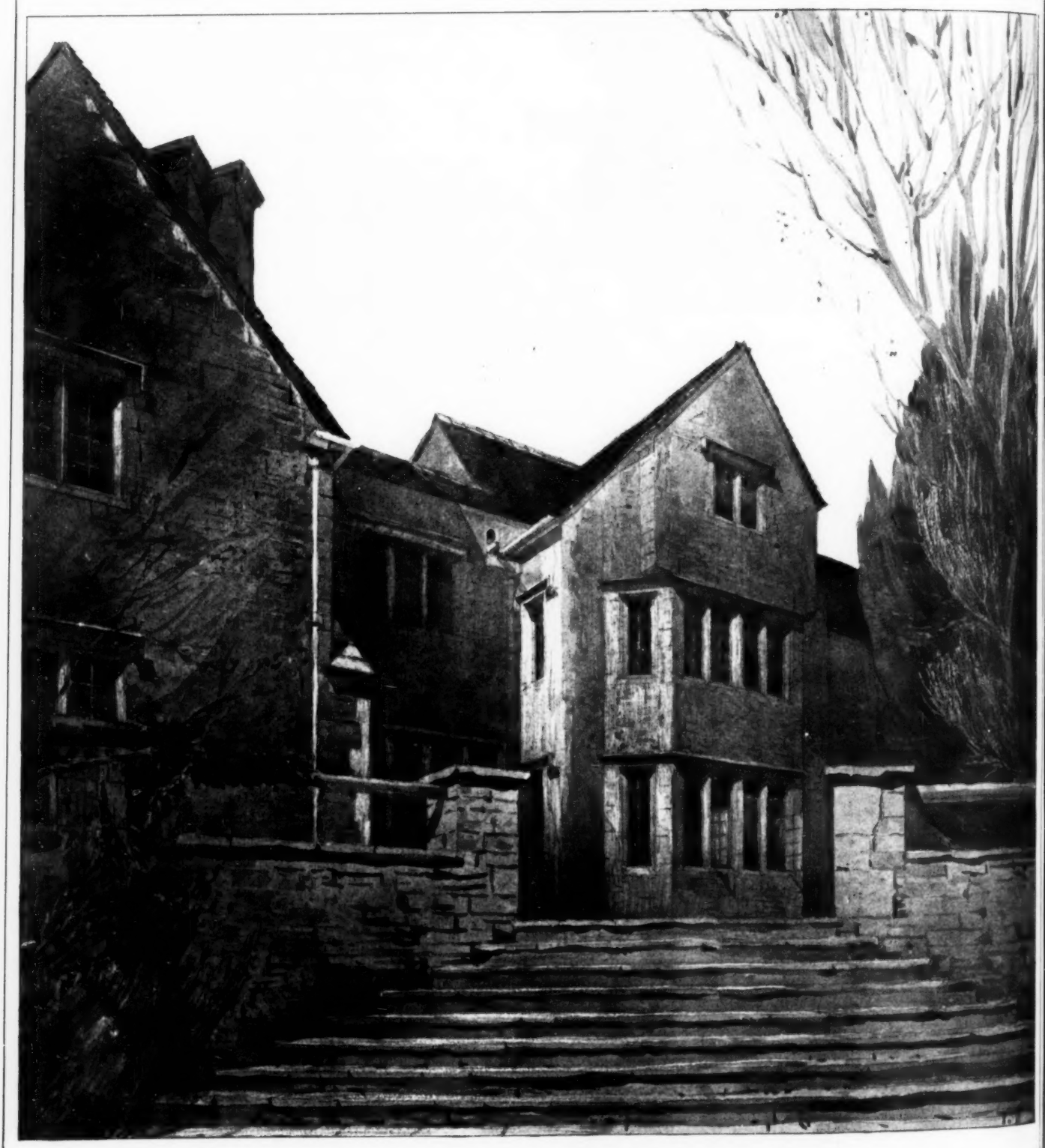
R.A. EXHIBITION.

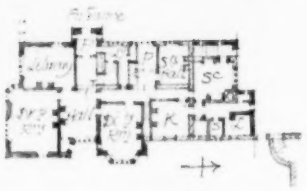
A VILLA ON THE RIVIERA. BY MR. ALFRED BOWMAN YEATES, F.R.I.B.A.

R.A. EXHIBITION.

A VILLA ON THE RIVIERA. BY MR. ALFRED BOWMAN YEATES, F.R.I.B.A.

RUDGE HILL HOUSE, GLOUCESTERSHIRE.
PART OF EAST SIDE





R.A. EXHIBITION.

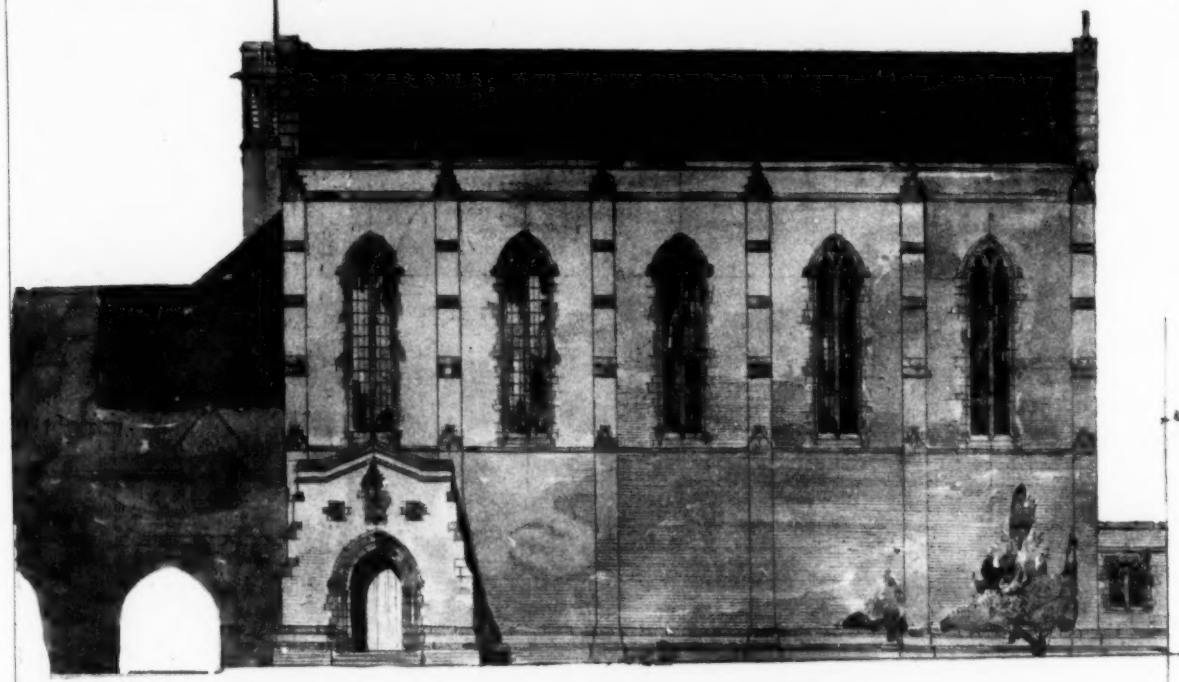
RUDGE HILL HOUSE, GLOUCESTERSHIRE (ALTERATIONS AND ADDITIONS).

BY MR. THOMAS TYRWHITT, F.R.I.B.A.

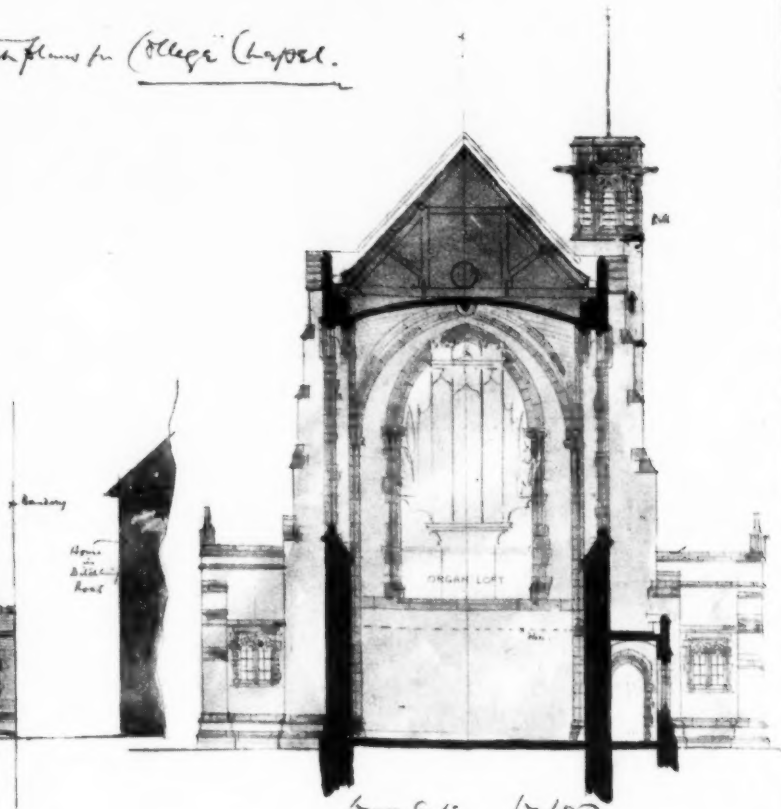
Design of Chancel

The Diocesan Training College: Hereford.

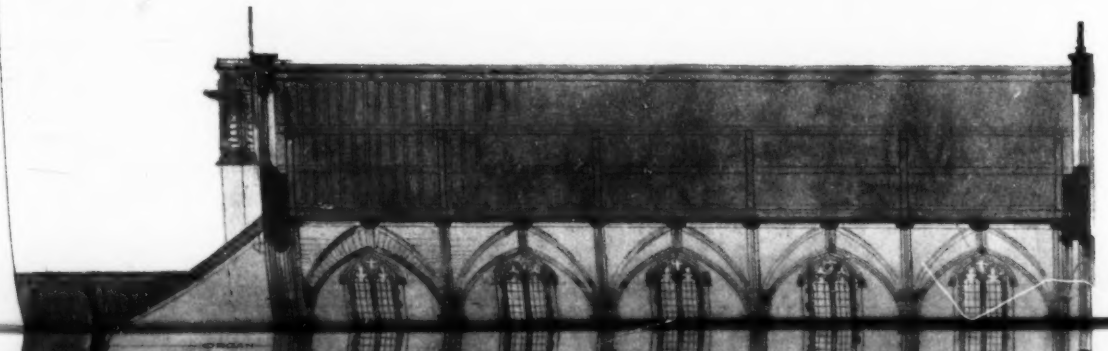
Sketch plans for College Chapel.



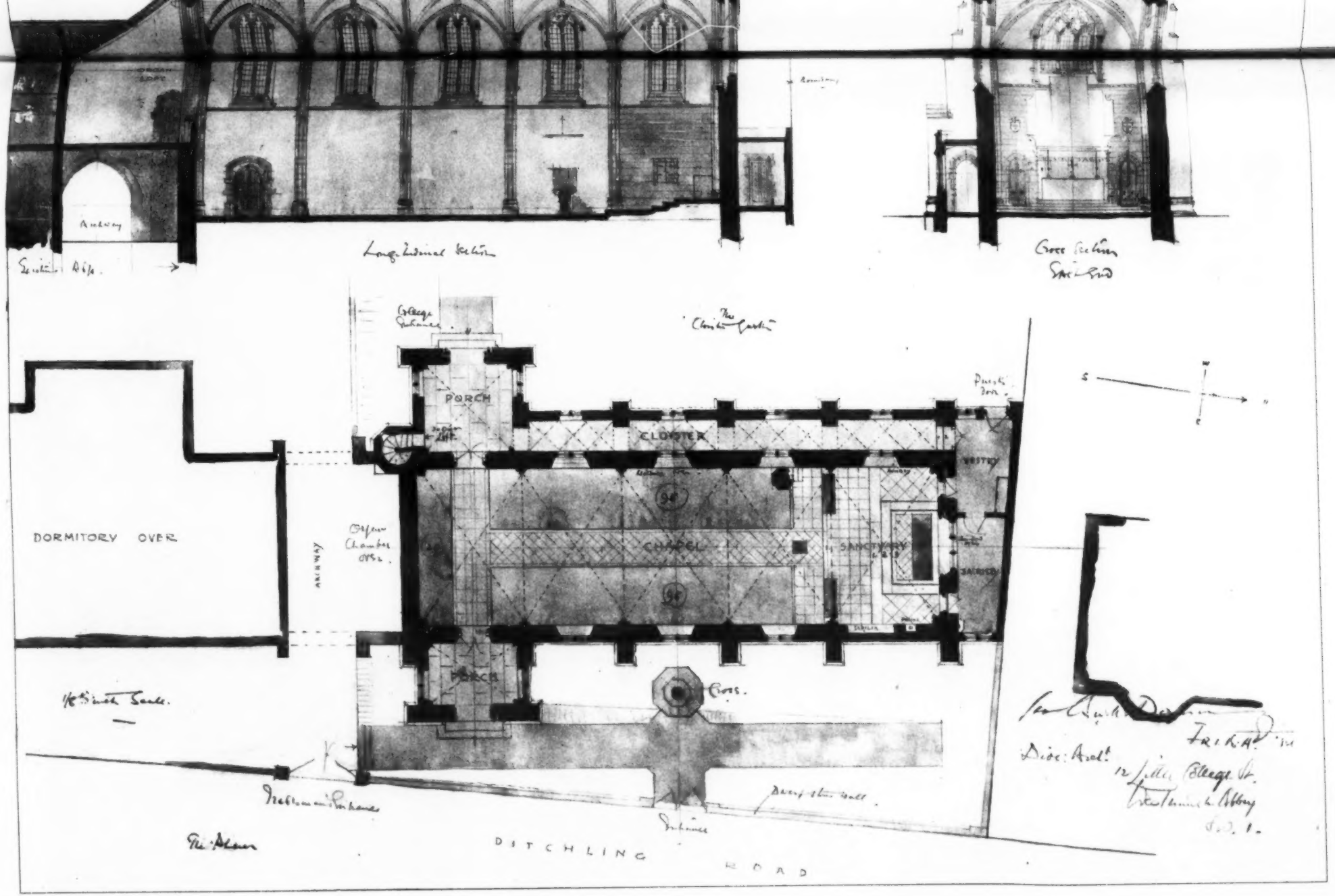
North Elevation & Sketching Room.



East Section Looking West.



ER. SEPTEMBER 2, 1921.

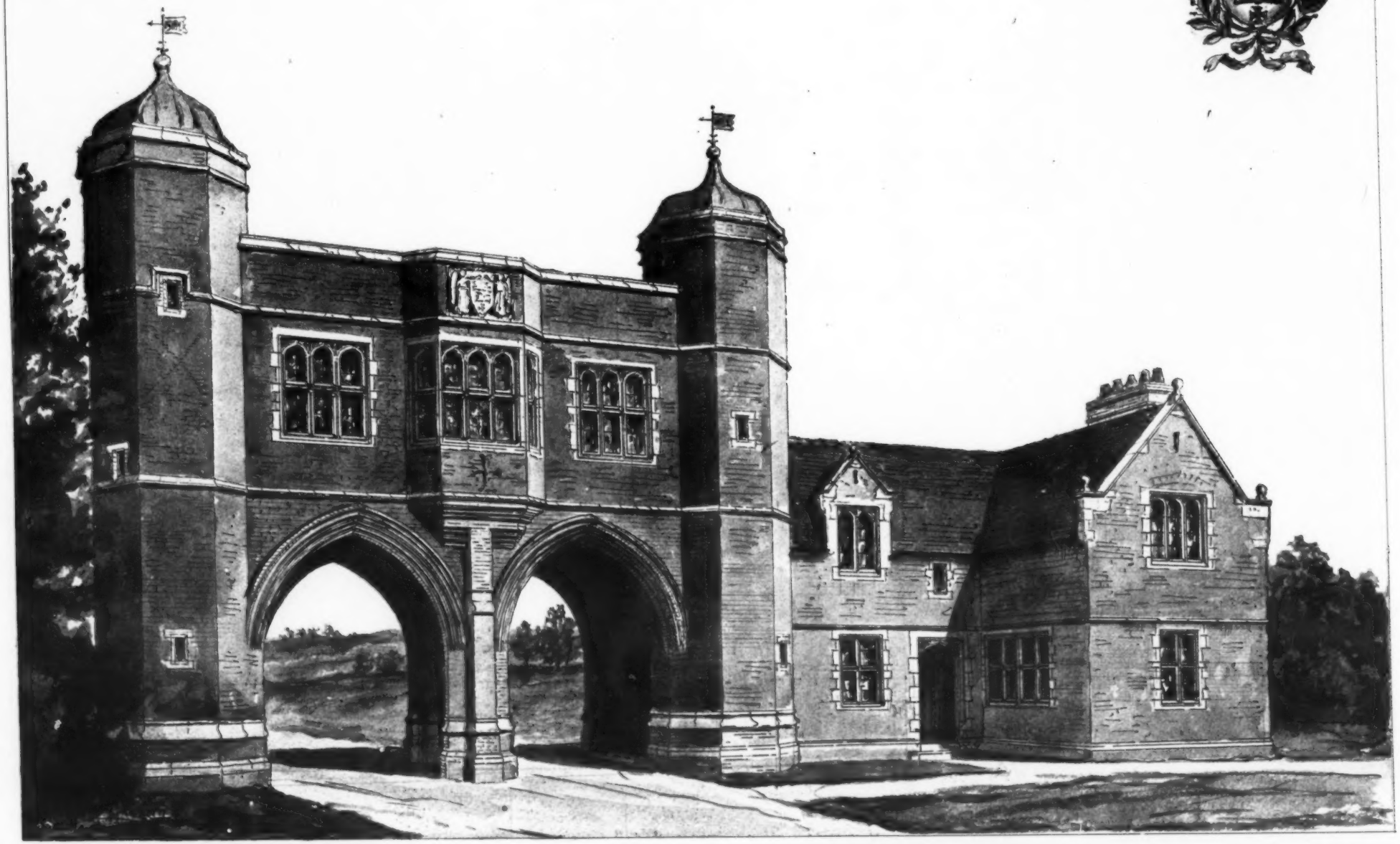


R.A. EXHIBITION.

SKETCH PLANS FOR NEW CHAPEL, BRIGHTON TRAINING COLLEGE.

BY MR. H. P. BURKE DOWNING, F.R.I.B.A., F.S.A., DIOCESAN ARCHITECT.

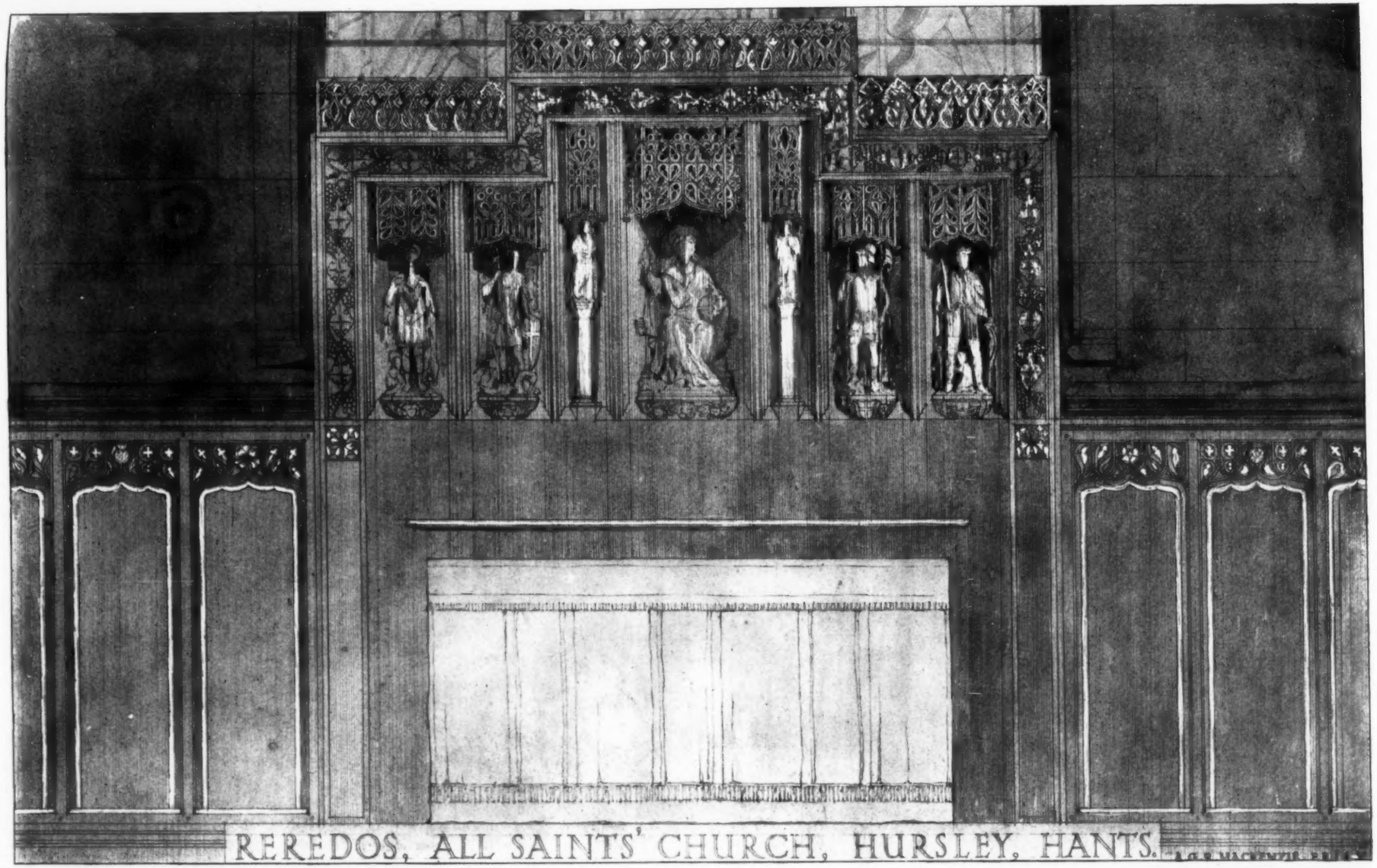
RADLEY COLLEGE
WAR MEMORIAL GATEWAY



R.A. EXHIBITION.

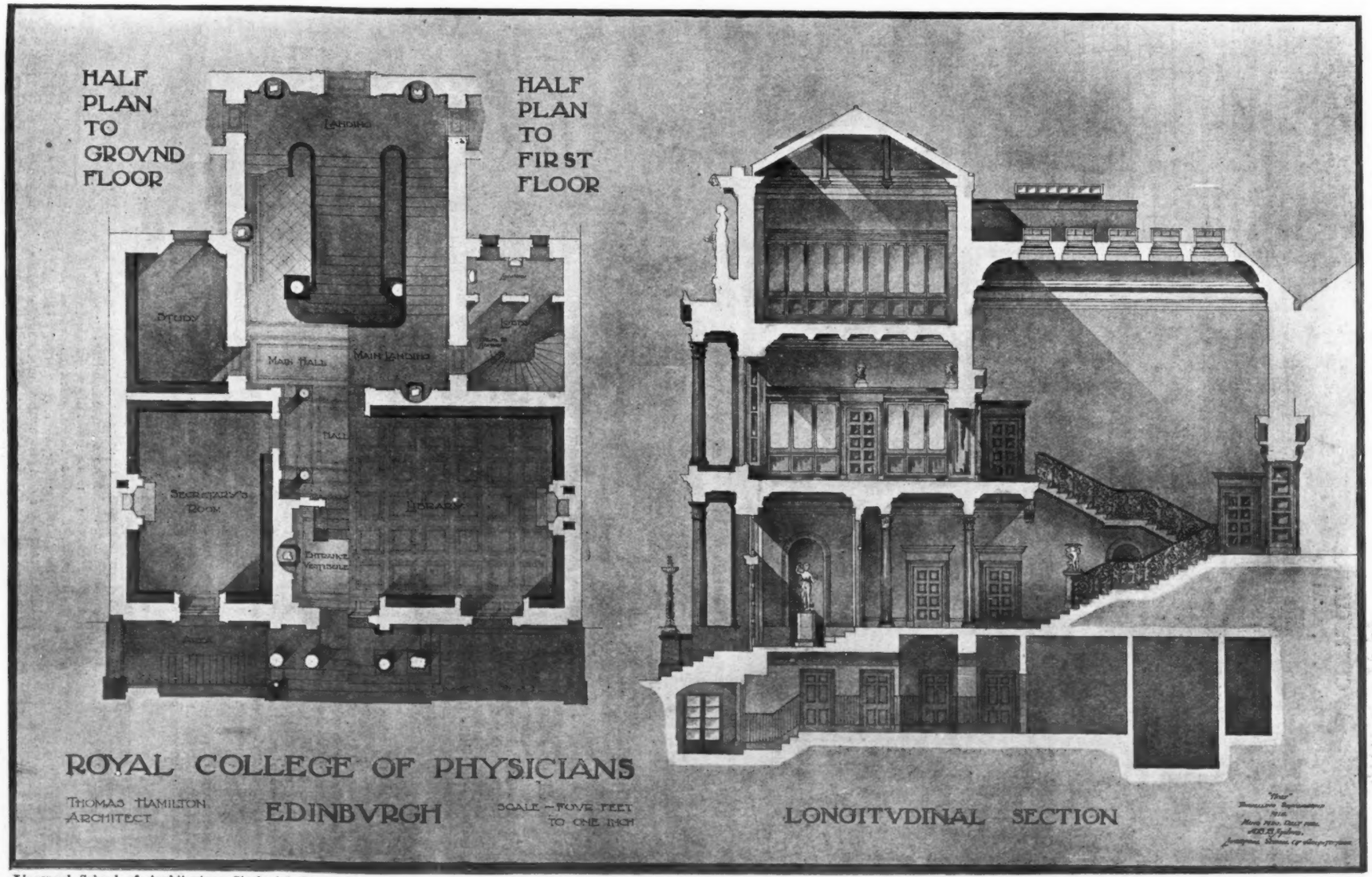
RADLEY COLLEGE WAR MEMORIAL GATEWAY. BY SIR T. G. JACKSON, BART., R.A.

THE BUILDER. SEPTEMBER 2. 1921.



R.A. EXHIBITION.

REREDOS, ALL SAINTS' CHURCH, HURSLEY, HANTS. BY MR. A. G. R. MACKENZIE, F.R.I.B.A.



Liverpool School of Architecture Students' Work.

Holt Travelling Scholarship.

MEASURED DRAWING BY MR. A. B. B. JOBLING.

MODERNISM AND DESIGN.—IX.

BUILDING COMMONPLACES THE SUBSTANCE OF ARCHITECTURE.

BY W. R. LETHABY.

"In Xanadu did Kubla Khan
A stately pleasure dome decree:
Where Alph, the sacred river, ran
Through caverns measureless to man."

"MAKE a design for the above. The central feature to be a dome 202 ft. 3½ in. in diameter,

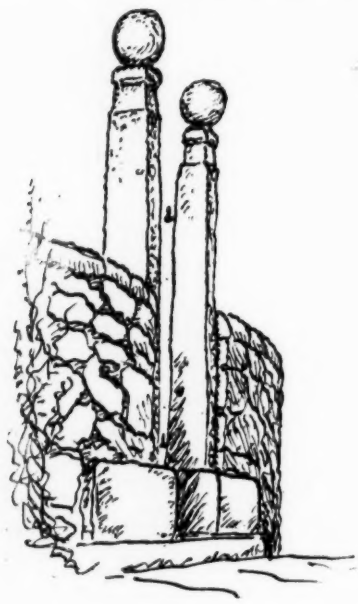


Fig. 1.

and the height to be proportionate. It is to be of polished black basalt, erected in the centre of an octagonal basin of quicksilver, situated just beyond the principal cavern (which should be shown in section). The 'dome' must be approached from each side by causeways of porphyry through triumphal arches of jade."

This is the sort of problem our educational leaders (misleaders?) put before young architectural students. "It stimulates their imaginations" is the stock argument—for something can always be *said* for every absurdity. But there is a sad and stern answer: "Yes, but they will not recover from the stimulus." How, indeed, could anyone care for the facts of a grocer's shop and premises in Bethnal Green after having had their imaginations fired by the wonders of an architecture built of rainbows and mist?

Architectural training should begin with the common, the concrete, and the economic, and good teaching should make all this interesting. If I had to begin again in my mad career, I should set about a systematic study of the humblest commonplaces of building "on my own," and in schools seek to get all the engineering training I could absorb and they would give. Here some notes follow, under the headings of several materials, of a few simple observations.

Masonry.—I am writing on the edge of Dartmoor, where the ground in strewn with great granite boulders. The fence walls between the fields are as much as three or four feet thick, built of large blocks split into irregular fragments. It is practically "cyclopæan" masonry and curiously Mycenæan. Building with boulders, it occurs to me, must very generally have preceded quarrying for stone. Stonehenge is boulder-built, and near here are some standing stones and foundations of hut-circles. Other rough walls are set with turf between the stones, and this transition to mortar building is still practised. The house walls are built with similar stones, a little smaller, and set in much mortar, which is smoothed over the surface in a kind of half plastering, the stones coming to the surface here and there like the fruit in a plain plum pudding. This is the right way of doing a rubble wall. Granite easily splits up into long pieces fit for lintels and posts, and the farm gates hereabout are hung to such piers from six to eight feet long. Fig. 1 is a rough sketch of a pair of posts at a cottage close by—they are very slender, but strongly stubbed into the big base blocks; the balls are separate stones. I st local mason's work, which came inevitably by doing it! But is it not right and even romantic, with the romance of the real? "Designed" and estimated for and done out of its proper neighbourhood, the stones being cut down to fit the office drawing, what would this cost—£60? At this cottage, done in the daily stride of local labour, it mi h have cost as many shillings.

The churches and old houses are built of granite, the mouldings and carvings all being coarsened to suit the material. There are hundreds of granite grave slabs. I have just come in from a church where I noted Fig. 2; the letters were generally blacked in—the big letters and initials were red, and the final letters of the words on the second slab were blue. Direct and unashamed work of the village mason, these things are human—beautiful.

The story of masonry would and should fill a volume, and I must now only mention one other piece of walling at a cottage recently seen near the Chilmark quarries. This was a sort of half ashlar, big stones and little being mixed up, but forming level courses. Many of the big blocks, if they did not bear out at the angles, had little pieces notched in. Fig. 3, from memory, may just suggest the kind of thing, but it misses the natural beauty of the walling itself: I ought to have drawn it carefully.

Bricklaying.—The possibilities of building with brick are also practically infinite, and I regret that I have no special notebook with records and observations, as I should have if I could re-educate myself. Beyond the bonds all manner of special and playful arrangements are easy to make. The other day, near here, I saw some corbelling like Fig. 4: the bricks being on edge gave an unusual look to it; the slanting face of the corbels was roughly cut. I have seen a garden wall built with alternate courses, showing the flat of the brick: al o a panel (9 × 9) formed of two such bricks—one over the other—bearing initials and date. Crosses and patterns set in this way occur to one at once: directly we get to work with materials, designs make themselves.

Attempts have often been made to bring in variety of colour by using different varieties of bricks, but I cannot recall a satisfactory modern example. It seems that something in colour must be left to accident and that worry kills. Near to me in town there is a garden wall built, I should think, of a contractor's old stock; there are some layers of "blue brick," then a couple of courses of stocks, and the rest is red; the resulting colour is delightful.

As an example of the use of brickwork needing some contrivance beyond the bonds of the books, let us think for a minute of chimneys. There must, over the whole country, be thousands of pleasant solutions which were made by old bricklayers in the generations before about 1850. In this little village there are at least a dozen varieties all fit and right. One of these (Fig. 5), simple as it is, I have never seen elsewhere, yet it gives a finish in a strikingly simple way: the top three bricks at each corner are built across the angle as shown—that is all. In Fig. 5A, I show another simple piece of management; this chimney has chamfered bricks at the angles and similar

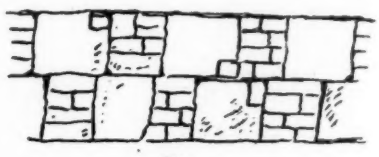


Fig. 3.

bricks are used for the capping. I should have wanted, when working on paper, to mitre the projections "properly," but the bricklayer's easy way results in giving an accent at the corners which is very pleasant and, moreover, it is economical. Now, is there not some absurdity in (presumably) æsthetic experts mugging up the natural art of the common British workman of two generations ago, so that they may intervene with their expert whims and prevent living bricklayers from making living adaptations for to-day? For such details and practical workmanship ours is the design of a dead hand and corpse cold. By the way, while speaking of this village, may I say that the right place to study "architecture" is not Paris or Rome, but where you are—"Here."

There are many brick-like elements which have hardly been brought into full building use—flat roof tiles, half-round ridges, pantiles, ordinary large paving squares, the small common pipes, the new box-bricks, &c. Flat roof tiles have been used recently in perhaps over "artistic" ways, but sixty or eighty years ago quite large "flats" were safely covered with three or four courses of such tiles in cement, and they are an admirable material for constructing light vaults. Paving squares are practically Roman bricks, and would be a very useful second unit for building work. I have hardly ever seen pantiles used except for roofing, but they might be pleasant in cornices, and possibly as occasional projecting courses in walling to break up a large area of plastering or roughcast. In Fig. 6 I have tried a rather elaborate cornice, using small pipes and pantiles. It might have looked pretty well if it had been roughly built in old Venice or Milan, but it is too out-of-the-way for us. It may, however, serve to suggest what might be done if we could do it. This, indeed, is my whole purpose; at present the dominant demand is for Commercial-advertisement "architecture" with Big-Store and Picture-Palace effects, and for this what we get is doubtless "just the thing."

The Carpenter's Art.—Carpentry, one of the

Fig. 2.

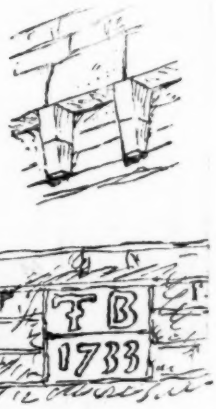


Fig. 4.

primary and most noble of the building arts, almost disappeared during the last century. The roof trusses and skylights of which Peter Nicholson wrote with enthusiasm gave place to the miserable imbecilities of "othic and Classic" design. Up to the time of Soane and even of Cockerell "architecture," although in theory conceived superstitiously as "style," was practically in a large degree still a marshalling of the building crafts. Paper designs were understood to be symbols of solid workmanship, but afterwards the paper became principal, and the function of builders was to make a full size model of an "architectural design." So it has come about that we build no more vitally real churches and houses but style imitations, hardly more than stage properties of those realities.

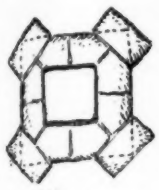


Fig. 5.

Fig. 5A.

Of comparatively modern things I know nothing more impressive than a good trussed roof. Such a roof thrown over a wide span, skilfully framed and well up to its work, will still give us the builders' joy. There is no need always to plane and niggle the timbers all over; often this is to spend effort and substance for less than naught. Occasionally at least sawn timbers left plain or whitewashed will be much more impressive and "beautiful." (After writing that I saw a farm-house kitchen with blackened timbers—excellent.) May I ask the reader to pause and think of the possibilities of a church with such a roof built for human living creatures—something true and spotlessly fair and light and peaceful? How different it might all so easily be from those cunningly devised confections in the York style with just the pretended beginnings of the Renaissance in the glass—a simulation of honest glazier's work of about 1517; or mix in another cherub and curl and call it 1522!

I give in Fig. 7 a memory sketch of an experiment in roof design by Albert Durer from his study-book in the British Museum. The idea was evidently a scheme for covering the widest possible space with ordinary timbers. A is one of the internal pillars with a wooden platform bracketted out from it. B B are roof trusses resting on the platforms which enable the bearings of both the tie beams and the purlins to be reduced one-half. Here with bearings of 15 feet we get a span of 75 feet. On these tie beams was built up quite a forest of timbering. Such things of wood are as delightful and imagination-moving as the things of masonry. If only we would get back to the facts and verities and cut our (sham) "Gothic" and "Classic" losses, we might have them for the doing at any time.

We suppose that oak ("black oak!" as the novels say) is specially fine stuff, and so it is, but so is pine too if we would honour it. Left clean it is really hardly interior to cedar. If it is good enough in Norway and Switzerland it is good enough for us too—but properly used. Delightful ceilings and wall coverings might be made of mere match-boarding (with a difference); I have just seen beaded joists to "match-boarding" on a door dated 1655, and also of very thin hard woods. Or when we are tired of the ordinary cracked and falling plaster ceiling it would be easy to break up the area with a set of flush grounds in wood that would show and be painted. Similar grounds in the wall plastering would also be nice and useful. We have been so anxious about "Elizabethan" and "Georgian" that we have actually not had time to learn that plaster does not like nails. (May I here commend the excellent common sense of the article by a Retired Admiral in *The Builder* a month ago.)

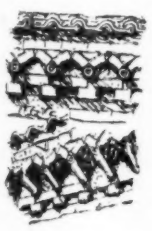


Fig. 6.

Plastering.—We have scorned stucco and lime washes, but they are good in their way. It is almost impossible to provide for even ordinary good trade plastering by "specifying" it. Laying plaster properly is like cooking—it must be done by an artist with instincts. How new experiments are to be made under present conditions I don't see; the wells of workmanship are drying up.

A month or two ago I saw some fine twelfth-century plastering of a beautiful red colour on the crypt vaults at Rochester. It was largely mixed with crushed pottery and was practically Roman mortar. A house in this village has recently been plastered by some little builder who cared; the material had much crushed granite mixed in and it was finished with a rough face; particles of granite which sparkle in the light make it pleasant to look on. It reminds me of a whitewashed hous I once saw where much powdered glass had been mixed with the lime, so that the face glistened all over in the sunshine. This cottage has remained on the shelves of my memory with cathedrals and castles. The other day I passed a wayside cottage which had been washed with pale red and the windows surrounded by a margin of white. It made the sort of thing that water-colour sketchers want to draw. At the village where I lived a year ago there was a row of cottages facing the common—detached and irregular, but comparatively modern and washed in different colours—buff, yellow, fair copper-green (a right colour, as this shows), red and white. Custom, a little simple-minded choice and accident made a picture. Again, in old towns, like Winchester and Salisbury, we frequently find brick fronts washed over with

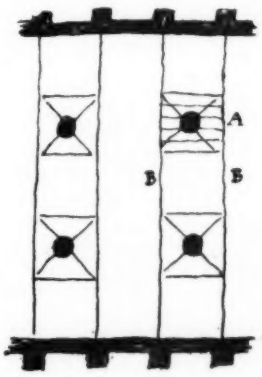


Fig. 7.

white or colour washes, the texture of the brick and joints striking through; this is a good traditional method of finish.

In a great number of London houses built about 1800, plaster for painting was skilfully applied to parts of the fronts, such as the lower story under the balcony, a slightly recessed part about the front door, or only the reveals of windows. These being repainted from time to time, freshened and smartened the whole building. All new stonework in towns should be finished with lime-wash to protect the surface.

Cast Iron.—The first little special study of a material I ever made was of cast-iron; I thought it was a low un-architectural stuff; but seeing that some applications and treatments were better than others, it were well that it should be rightly understood. I have come to think that it is an excellent building material which we should adopt without shame. Possibly the best work done in London from about 1780 to 1840 was the development of the fit use of cast-iron, and there are hundreds of balconies, railings and brackets which are admirable examples of thinking and craft. The house I know best is a speculative builder's erection of about 1840, but at that time there still lasted on some sense of fitness in the plaster-work, chimney-pieces and the cast-iron balcony. The last named has a floor grating of hexagon-pattern and a flat running margin which are as good as needed—nothing wonderful but just right. The best quite modern work in cast-iron known to me are the large grilles at the Albert Hall, the design of an expert, and sometimes I find a coal plat-

in which I can take comfort! I wonder why we do not use cast-iron lintels for house windows as an alternative or reinforcement of the common flat arches? Over extra wide openings they might be supported by neat stanchions or slender pillars. I wonder, too, why we do not use cast-iron lattice forms for glazing—good

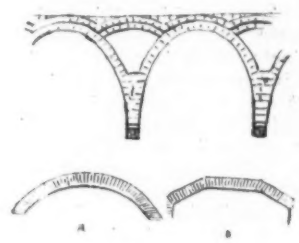


Fig. 8.

solid panels in "monumental" buildings. Our best hope is in common-sense structure carefully finished.

If I had space to try to write a treatise on the foundations of architecture, I should begin by working through the common materials and customs of building in some such way as I have here just hinted at. Then I should pass to the constructive and functional parts, vaults, arches, windows, staircases and the rest. And I would end up with whole buildings, classes and structures, and groups. We need a modernist parallel to Viollet le Duc's *Dictionary*.

I do not know of any account of arches other than the dry archæological catalogues and the still drier scientific examination of their properties. The parent arch was of tall semi-elliptical form, it was taken over into crude brick from mud-work. The pointed arch was no new Gothic invention, it was an easy translation into stone of the brick-arch form a labour-saving contrivance, not a style "design." We have gone on in our dull way using pointed arches in the nave arcades of ten thousand modern churches as if they had been ordained from the foundation of the world. The real question of opening the aisles to the central span with the least obstruction never seems to have been considered. Directly one looks at it as a problem of building, notions like Fig. 8 come into the mind. With some such arcade, big flank windows and light tile-vaults (mentioned above) it is easy to see that a modern church might be a living structure. Even in the commonest elements new points are all the time being suggested by the facts of building. Thus in a stable I have just seen an arch like Fig. 8A: being segmental and having the joints radiating to the central point of the springing it results (by the cutting of the bricks) that the arch increases in depth towards the crown—quite a pleasant variety. We are accustomed to flat arches over windows: the form Fig. 8B might sometimes be convenient.

Do I make myself plain: not in the details but in the drift? A living architecture is to be reached only through reality in common things. The real is the right and even the romantic. Great historical schools have developed in all sorts of ways beyond the common base, but the building base is the one thing needful. I trust that what I write may not seem disheartening to young students; it should contrariwise be stimulating to learn that architecture" is not exhausted; that we can have it again whenever we return to facts; and that beyond the shams, reality waits to be explored and life may still be found.

BOOK.

Perspective as Applied to Pictures. By REX VICAT COLE. London: Seeley, Service & Co. Price 18s. net.

IT may be truly said of this author, who is also an artist, that he has framed his book as becomingly as if it were a picture, so attractive is the way in which it is presented. Instead of the dry, scholastic air, so often identified with the text-book, there is in this treatise on perspective almost the attraction of a work of art because not only labour but delight is apparent in the pages. This attraction so far from lessening its value as instruction only serves to set that instruction in a more becoming light, and the student should find less of task than recreation in studying its pages. For the laws of perspective are approached in such a way as to give them immediate reality to the mind. There are no complex diagrams, and the simple principles are applied with so much clearness, and illustrated so adequately by examples drawn from nature, that the art student can hardly be foiled in understanding them. The entanglements of Euclid and geometry are resolved in a series of lucid and practical illustrations which, leading the student on from the simplest examples to those more complicated—such as the rules of perspective which relate to architecture—which are yet presented with an equal clearness.

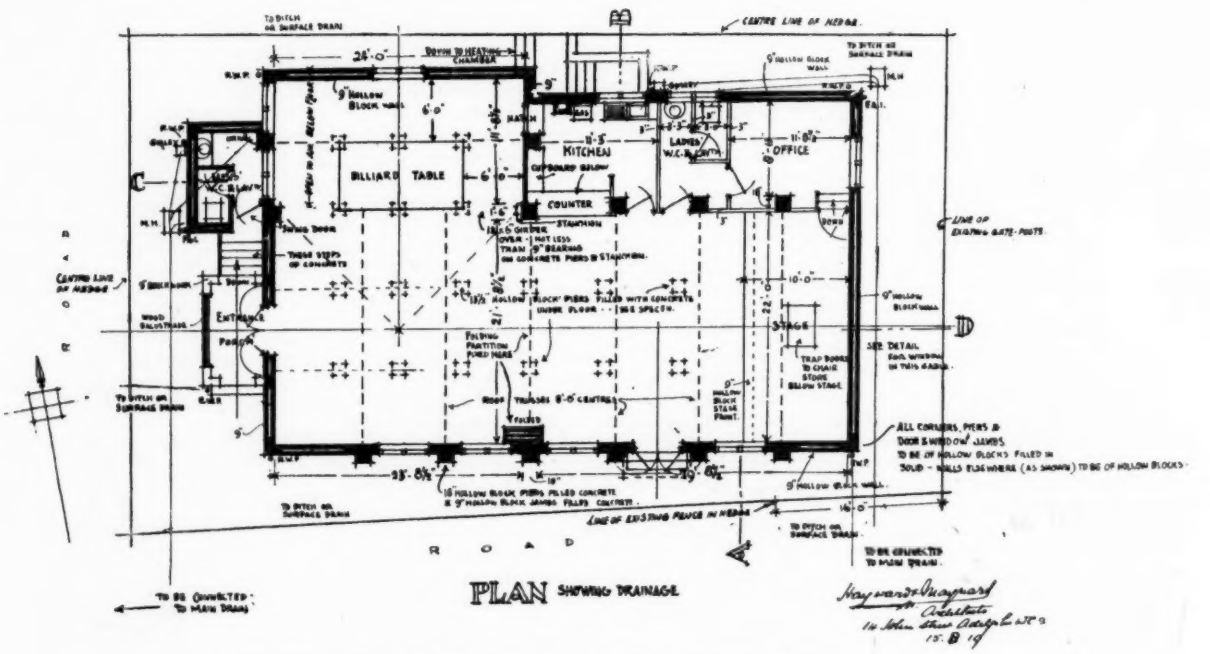
In sketching the object first and then putting it into perspective the author saves the student from a good deal of mystification which is aroused when the starting point is made amidst a host of intricacies. It is told of an early Italian painter, according to Mr. Cole, that to his long-suffering wife's entreaty not to burn the midnight oil, he simply murmured, "Oh, this perspective; this beautiful perspective." Something of the same enthusiasm should be aroused in the student when perusing the pleasant pages of this book. It is divided into three parts:—(1) Nature's perspective as seen and used daily by painters, (2) perspective as practised by the nations at other times, and (3) mechanical perspective. Several chapters are given to the consideration of each of the subjects. The illustrations and diagrams in the book are a very attractive feature and include Mr. Cole's own skilful drawings. It will well repay the student's attention and is deserving of warm commendation. Such a book also serves to remind us of the importance of the structural side in art and of the patient study on which sound craftsmanship is built. It may be that the text-book on art has been to blame in that it has offered its instruction in a too "dry-as-dust" and conventional manner. Mr. Cole manages to include the charm of a less conventional approach without loss to the subject treated. His personality colours the instruction and we are glad to have him as a companion through the pages of the book, which has a very English manner of approach, untouched by the "modernism," at once so morbid and self-assertive and which has been of so little benefit to art in recent years. We have gone great lengths towards concealing the nature and purpose of art through the vagaries of schools and groups, which have obstructed the course of its natural channel. And in speaking of this we refer to the English tradition which has lain in abeyance for years. The return to this would be a great gain for English art. Really, most of the licence and vagary to be seen in English painting has been derived from foreign sources. There are fortunately many signs that this change is forthcoming and that we are getting back to ourselves. The late Lovat Fraser and other artists show in their work—though often slight in itself—signs of this recovery, of the more simple, direct, and romantic spirit to be found in the old English traditions. England will do much more for art in following her own tradition and experience, and in looking back across the lovely fields of her own native endowment for inspiration and example, than in exploiting foreign influences that are also foreign to her own character and natural direction.

DORMANS MEMORIA L CLUB

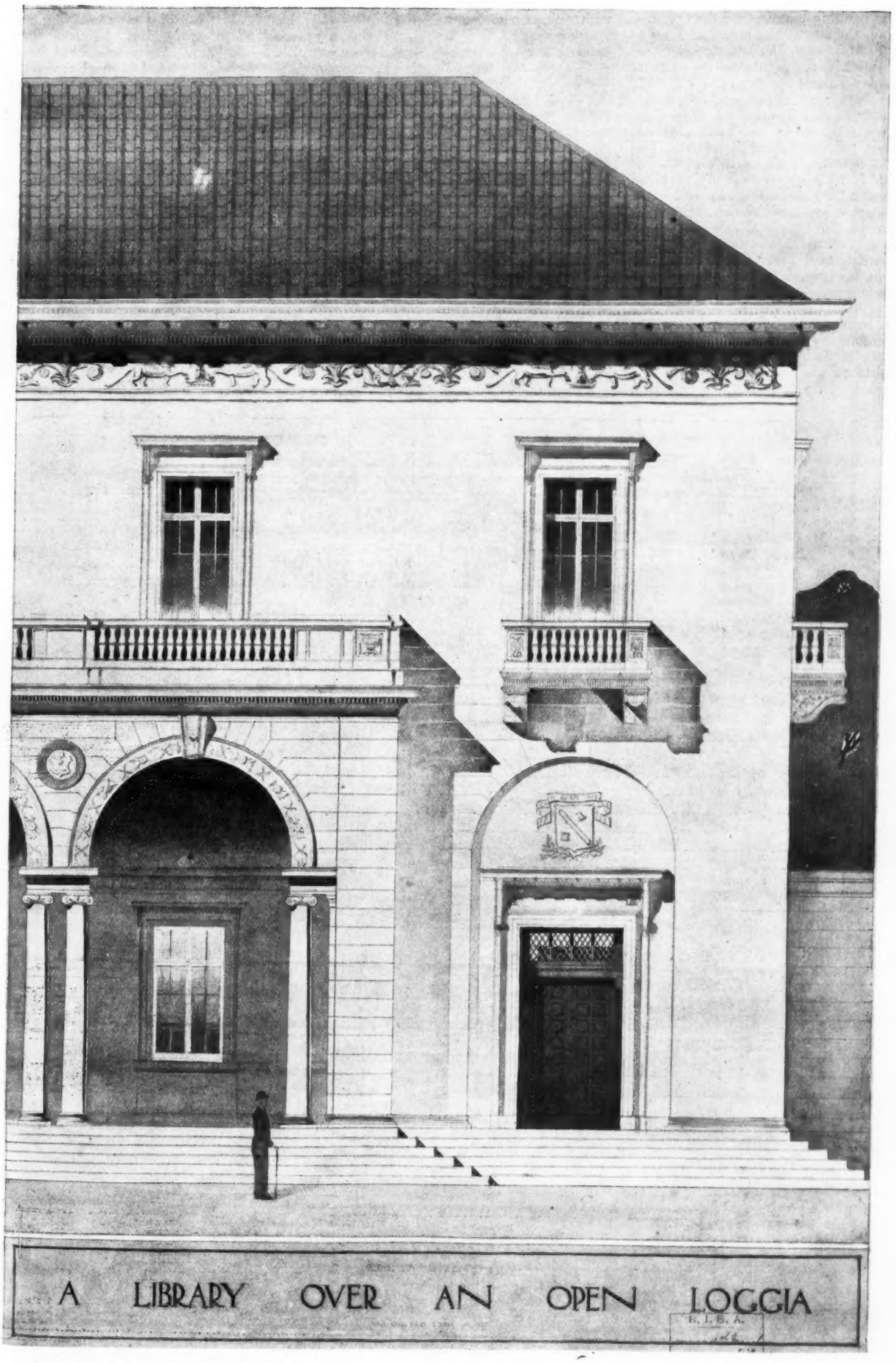
THIS small village hall was erected recently at Dormans, Surrey, as a war memorial, the cost being defrayed by voluntary subscriptions. It is built upon a site presented to the village by Lieut.-Col. Spender Clay, M.P. It was designed by Messrs. Hayward & Maynard, of 14, John-street, Adelphi, W.C. 2, and erected in concrete blocks under their supervision by the contractors, the Banger Concrete Construction Co., of East Grinstead. The whole of the walls are of concrete, and the roof is composed of concrete tiles manufactured by the contractors. The central heating was installed by Messrs. J. & F. May.

Office of Works' Architectural Staff.

The increase of staff in the architectural division of the Office of Works and the promotions to acting rank of architects and assistant architects, with corresponding increases of pay, which were made about eighteen months ago, have, it is reported, been considered by the Treasury, which has refused to make the acting rank permanent, with the result that a number of officials are to revert to their old rates of pay



Dormans Memorial Club. MESSRS. HAYWARD AND MAYNARD, Architects.



Liverpool School of Architecture Students' Work.

DESIGN BY MR. STEPHEN WELSH.

NEW PREMISES FOR THE COLONIAL BANK, LTD.

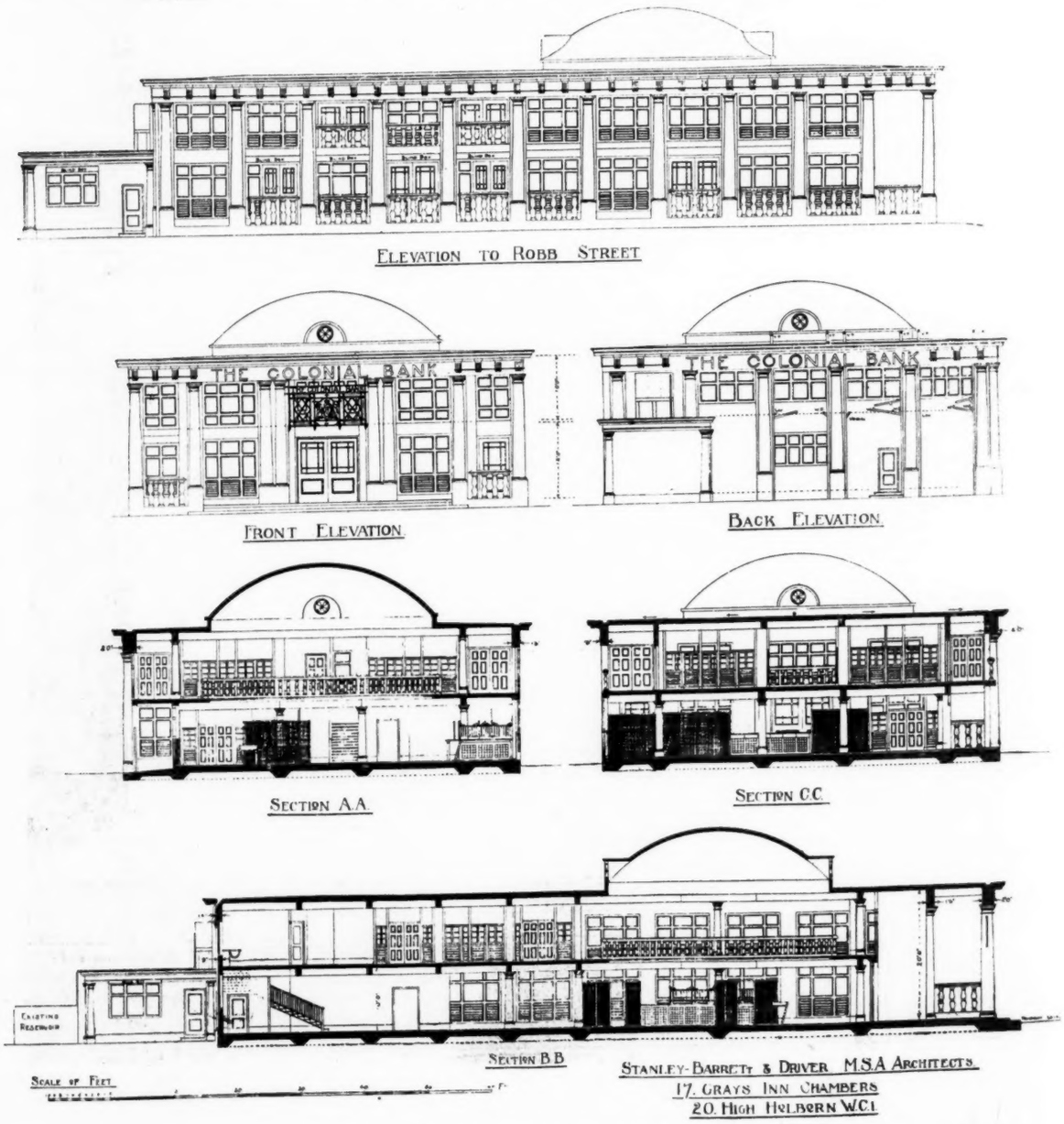
THESE new banking premises for the Colonial Bank, Ltd., on the site at the corner of Water-street and Robb-street, Demarara, from the design of the architect, Mr. Stanley-Barrett, of Messrs. Stanley-Barrett & Driver, F.S.Arc., of London, are Classic in design, based on the Doric order of the Temple of Marcellus, Rome. A bold treatment has been adopted, all unnecessary ornament being avoided. The building has a frontage of about 63 ft. to Water-street and 122 ft. to Robb-street. Doric columns 20 ft. high and 2 ft. 6 in. in diameter support a Classic entablature and cornice, forming a wide open colonnade the whole length of these elevations. The colonnade is raised about 2 ft. above the street level and is approached by wide steps in the centre of the Water-street elevation, where are the main entrance doors. The roof is flat, with a dome 35 ft. in diameter over the centre banking hall. The construction consists of columns spaced about 10 ft. apart supporting the roof, the space between being filled with windows and louvres. The front portion is occupied by the large banking hall, over 50 ft. wide by 70 ft. long and 34 ft. high in the centre. Around the four sides of this hall is a wide gallery supported by Doric columns, leaving a large octagonal opening 35 ft. across, with the circular dome above. Around this opening on the first floor level runs a Classic balustrade. On each side of the main entrance are large writing lobbies. The counter is U-shape, the centre portion being occupied by the staff. The back of the building has two stories, the ground floor being occupied by the Manager's rooms, general staff, stationery store, strong room, &c., and the first floor by the dining room, male staff room, &c., all of which have wide balconies. In the front portion the whole height of the two stories is taken up by the banking hall.

The architects have made a feature of obtaining a through draught in every portion of the building. The construction consists of piers, the spaces between being occupied by windows. The spaces between the windows and the floor are filled in with louvres, which are made to close when required. The partitions to the various rooms consist of louvres up to 3 ft. above floor level and casement windows above. The counter fronts will be constructed with open iron grilles; by this method, whenever there is a movement of air outside, it will have free passage through the banking premises in every direction. The hot air will be pumped out by means of electric fans in the dome.

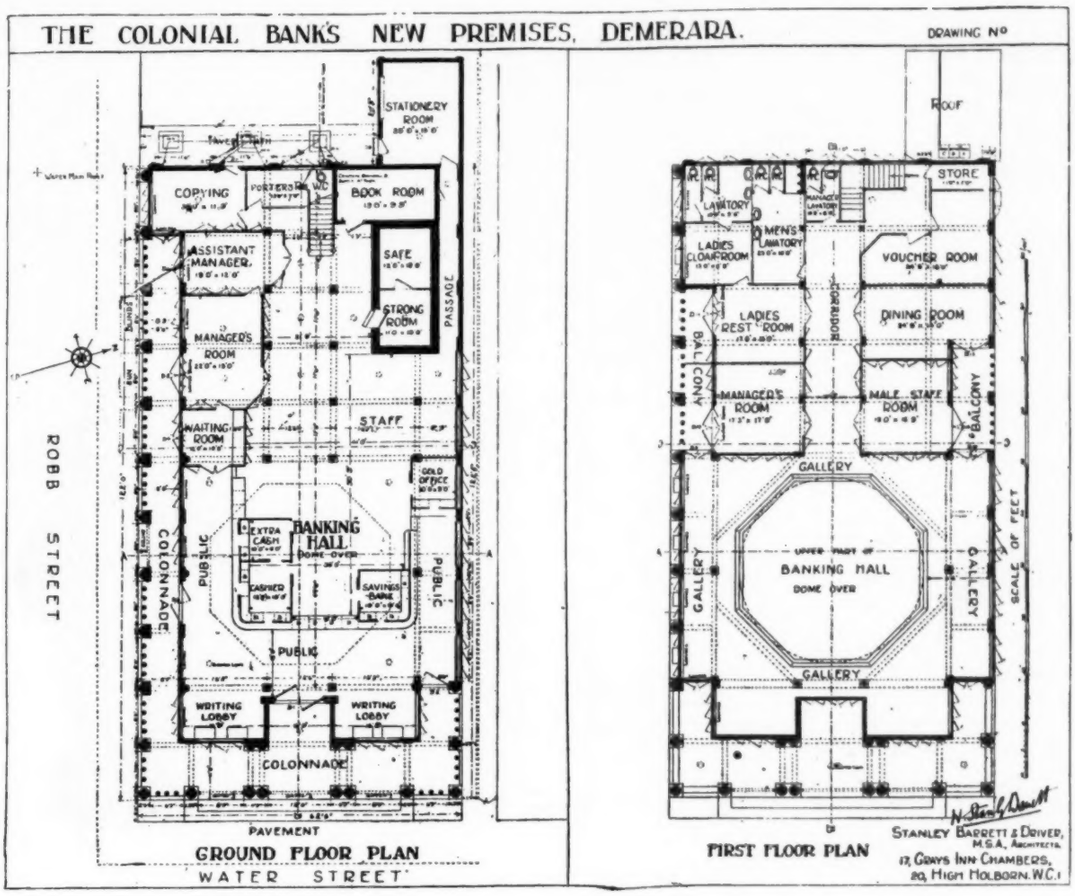
Instead of the usual sloping-out jalousies there are sliding jalousies similar to sash windows. These when not in use slide down below the window level and are fitted immediately inside the windows, similar to the old shutters used in Georgian houses.

The wide casement doors to the Manager's and first-floor rooms open outward and fold back flat against the walls of the colonnade or the balconies. In addition, there are louvre doors opening inwards, the idea being to have the glazed doors open and the louvre doors closed. Electric fans are to be provided in the rooms to facilitate a constant current of air.

The whole construction throughout is of reinforced concrete on the Coignet system. The exterior will have the appearance of an unpolished granite building with a slightly rough surface. The architects aim has been to avoid mouldings and all places where sand may lodge. All the angles of the floors and ceilings are rounded. The surfaces of the floors, colonnade, balconies, &c., are mostly marble terrazzo. Messrs. Pearson & Sons are the contractors.



New Premises at Demerara for the Colonial Bank.—MESSRS. STANLEY-BARRETT & DRIVER, M.S.A., Architects.



THE VIBRATIONS OF TALL CHIMNEYS AND TOWERS.

THREE years ago a summary was given in *The Builder* (July, 1918) of Prof. Omori's experiments on the vibrations under the action of the wind of the great chimney at Saganoseki in southern Japan. This chimney reaches the unusual height of 550 ft. On its completion, and before the internal scaffolding was removed, Prof. Omori studied the movements of the top with the aid of a tremor-recorder. On one of the few days at his disposal the wind at the top reached hurricane force, its velocity being 78 miles an hour. The pressure of this wind caused the top of the chimney to oscillate through a distance of 7¾ inches; but, strangely enough, this oscillation took place in the direction at right angles to that of the wind. In the latter direction, the range of movement was invariably less than one inch.

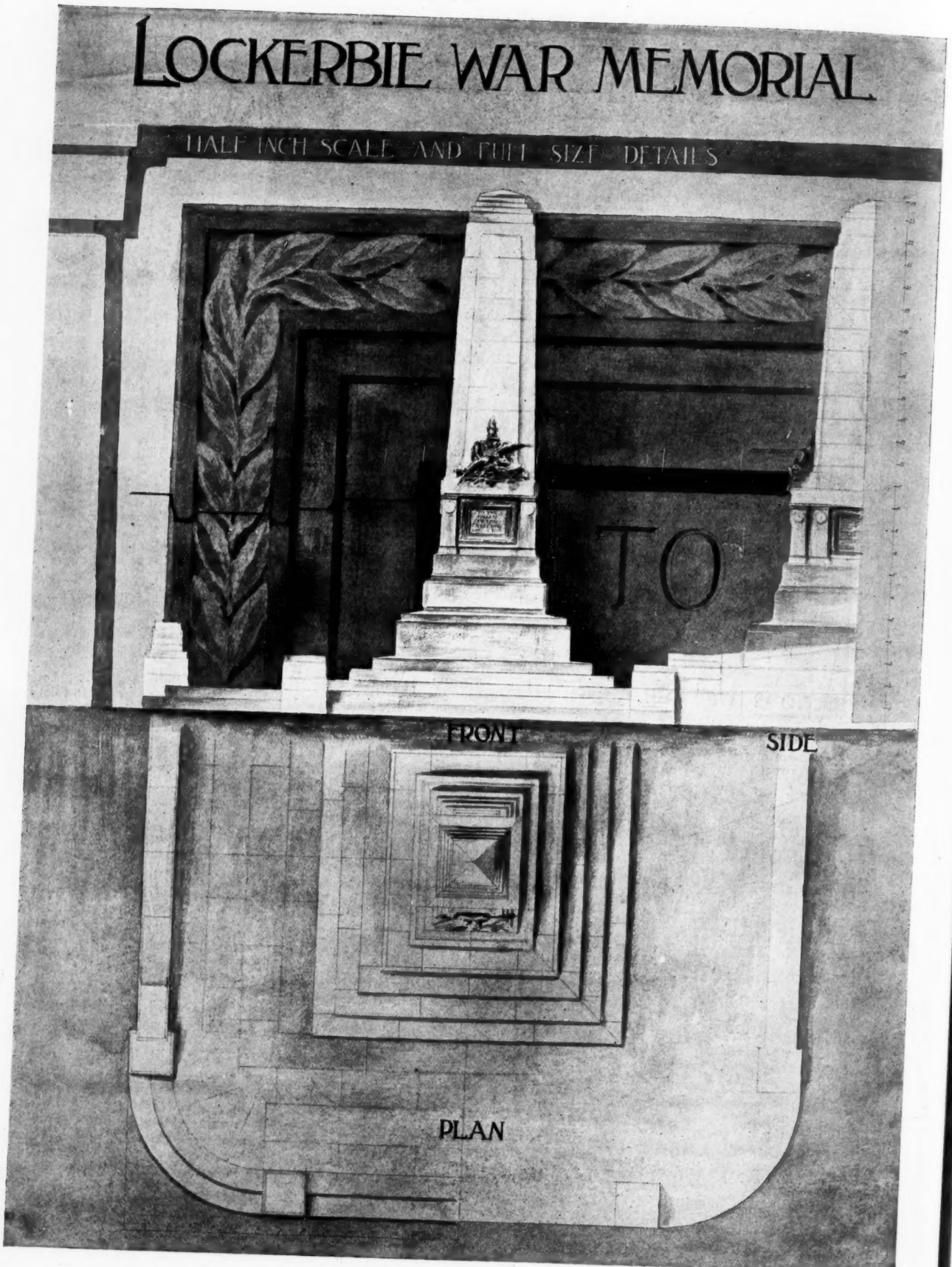
Prof. Omori has recently been able to repeat his experiments on the still loftier tower of the new wireless telegraph station of Haranomachi*. This tower, like the chimney at Saganoseki, is constructed of reinforced concrete. In form it is a hollow truncated cone, 660 ft. in height. At the base the external diameter is 57 ft. 9 in., at the summit 4 ft. 6 in.; the thickness of the concrete wall at the former level being 33 in., and at the latter 6 in. The foundation is a mass of reinforced concrete, 90 ft. in diameter and 12 ft. thick. The total weight of the shaft is 7,160 tons and of the foundation 2,930 tons. In designing the tower the maximum wind-pressure taken into account was 60 lb. per square foot at the base, increasing to 126 lb. per square foot at the top. The tower wall has no opening except a narrow entrance at the base and four windows, each 2 ft. square, separated by intervals of 132 ft.

The chimney at Saganoseki is fortunately situated in a district in which earthquakes are neither frequent nor of great severity. Haranomachi, on the other hand, is only about 120 miles from the chief earthquake zone of the Japanese Empire, which lies on the steeply-sloping side of the deep oceanic basin to the east of the islands. Prof. Omori estimates, however, that the greatest seismic intensity to be expected at Haranomachi may be about 1,000 mm. per second, an intensity quite sufficient to lay an ordinary European town in ruins. Owing to the lengthy period of oscillation of the column—more than two seconds—it is probable that earthquakes would pass without greatly injuring it, for the period of vibration in strong earthquakes is usually in the neighbourhood of one second. How important a near coincidence in period would be is evident from Prof. Omori's experiments on a 12-story brick tower in the park of Asaksa, Tokyo, a building 174 ft. in height and pierced by numerous windows. The average period of vibration of this tower is just over one second, and the tower has been much cracked by earthquake-shocks, especially along lines connecting the vertical rows of windows.

Prof. Omori's experiments on the movements of the Haranomachi tower were made at various stages of its construction and also when the building was finished. The measurements were made with a portable two-component horizontal tremor-recorder, registering mechanically in ink on white paper, and magnifying the movements of the tower from ten to thirty times. The instrument was fixed on top of the concrete wall and was protected by a cover from any direct disturbance by the wind. The wind-velocity was determined by a Robinson's anemometer set up alongside the recorder. And here it may be noted that at no time during this series of experiments did the wind attain a great force. The maximum velocity usually lay between 20 and 45 miles an hour.

The results of the different measurements may be summarised as follows. Until the height of the tower reached 290 ft. the movements were insignificant, not much exceeding one-thousandth of an inch (.03 mm.). The column up to this height was virtually a part of the foundation. At 414 ft. the movements were still small—less than one two-hundredth of an inch (.11 mm.). It was only when the height exceeded 500 ft. that the vibrations became well marked. At 522 ft. the total range of motion was about one-seventh of an inch (3.43 mm.); and, at the full height of 660 ft., about one-quarter of an inch (6.9 mm.). After the latter experiment the iron frame (38 ft. long and weighing 5,200 lb.) was attached close to the top of the tower, and the last measurement of all showed that the effect of this addition was to raise the total range to nearly half an inch (more than 10.3 mm.) and to increase the period of vibration from 2.07 to 2.12 seconds. As in the Saganoseki chimney, the maximum range of 6.9 mm. took place in the direction at right angles to that of the wind. In the direction of the wind the range was little more than one-quarter of this amount, namely, 1.9 mm., or about one-twelfth of an inch.

* Bulletin of the Imperial Earthquake Investigation Committee, Vol. 9, 1921, pp. 77-152.



Lockerbie War Memorial Competition.

Design submitted by Mr. ROBERT CROMIE, A.R.I.B.A.

[This design was submitted in the recent Lockerbie War Memorial Competition. The monument would consist of a brick core covered with tooled grey granite. The shield and inscription would be in bronze.]

LAW REPORT.

Quantity Surveyors' Certificates.

IN the Vacation Court on Thursday last week Mr. Justice Branson heard a case in which the Economic Building Corporation, Ltd., claimed a declaration that certain certificates issued by Messrs. Leaning & Sons, of London, quantity surveyors acting for the Liverpool Corporation, to the effect that the plaintiffs had been overpaid up to a specified date a sum of £338,818, in connection with the Liverpool housing scheme, were invalid. Further, the plaintiffs claimed an injunction restraining Messrs. Leaning and the Corporation from acting upon the certificates.

Mr. Jenkins, K.C., and Mr. H. G. Robertson appeared for the plaintiffs; Mr. Jeeves, K.C., and Mr. Glover for the Corporation; and Mr. Colam, K.C., and Mr. Kohan represented Messrs. Leaning.

According to a report of the case in the *Liverpool Daily Post*, Mr. Jenkins said the housing scheme provided for about 2,000 houses of two types, one type consisting of 668 houses to cost, as originally arranged, £825 each, and the other type comprising 1,332 houses, to cost £855 each—a total outlay of £1,689,960, which was liable to an increase for extras. The dispute turned to a great extent on the construction of an agreement which, as the plaintiffs said, had been misread by the defendants, who had not proceeded upon it on the proper lines. The plaintiffs were builders and were licensees of certain patents for erecting houses built of concrete blocks, except the chimney stacks and the fireplaces, which were of brick. The Liverpool Corporation got into touch with the plaintiffs, and an agreement was entered into dated May 11, 1920, under which the plaintiffs contracted to build the houses for the sums named. At the present time 982 houses had been completed or commenced.

Mr. Jeeves said he made the number of completed houses 171.

Mr. Jenkins, proceeding, explained the effect of the agreement, which included a provision that no sum of money should be considered to be due to the contractors or to be recoverable by them unless the amount was certified by the Corporation's architect. The plaintiffs obtained all the plant and erected accommodation for the workmen who were to make the concrete blocks on the spot and build the houses. In March, 1921, disputes arose between the parties concerning the issue of a number of certificates by the Corporation's architect, and the matter was about to go to arbitration when arrangements were made to stop the arbitration and provide a *modus vivendi* pending the final completion of the contract A supplemental agreement was entered into, under which Messrs. Leaning were appointed quantity surveyors to ascertain and certify what sums were due under the contract of May, 1920, with authority to base the value of the work executed at the enhanced price of £960 and £990 for the two classes of houses respectively—this being an increase of £135 on every house, which raised the total outlay on the scheme to £1,959,960. Messrs. Leaning reported that the plaintiffs had been paid £951,982, and overpaid an amount of £338,818. This the plaintiffs denied, alleging that the figures had not been arrived at in accordance with the provisions of the agreement, and they asked for a declaration that the certificates were erroneous, and that the matter must be re-opened.

One of the clauses of the supplemental agreement, said Mr. Jenkins, provided that if the plaintiffs had been overpaid the amount should be refunded by deduction from the future monthly payments. The plaintiffs' complaint was that the rate at which the defendants proposed to make the deductions would cripple them, would prevent them carrying on their work, and was contrary to the terms of the agreement.

Mr. William Arthur Leaning, giving evidence, stated, in reply to Mr. Colam, that the suggestion that he had not valued the houses in question upon the basis of the supplemental agreement was quite untrue. In the certificates he had issued the plaintiffs had been given the full benefit of the new prices, including the cost of baths. He had acted with perfect fairness to both sides and had done no injustice to the plaintiffs.

Mr. F. C. Serle, surveyor, who acted in conjunction with Mr. Leaning in the matter, said the bills of quantities were taken out quite properly for the purpose of valuing the partly-finished houses. The value of the work was based on the increased figures under the supplemental agreement.

Mr. Jeeves, for the Corporation, submitted that Mr. Leaning having been brought in by both parties on the understanding that his decision was to be final and binding, and he having acted honestly, it was not possible to go outside his certificates.

Mr. Justice Branson said that there was no question about the honesty of Mr. Leaning. The point was whether he had misread, as Mr. Jenkins suggested, the supplemental agreement, and had gone on a wrong basis.

Mr. Jeeves argued that there was nothing to justify that suggestion.

Mr. Colam, for Messrs. Leaning, said from their point of view it did not matter whether the Corporation paid the plaintiffs more or less. But it was an impossible position to put the surveyors in to say that if they misconstrued an agreement they were liable to have an action brought against them. That they had misconstrued the agreement, however, he did not agree. Whatever the result of the action, they ought to have their costs, because they ought never to have been made a party to it. The object of the agreement was a business one, and must be construed in a business way. Messrs. Leaning were to decide by means of interim certificates what was to be paid by the building owners to the contractors. It was going altogether outside the meaning of the agreement to ask that everything should be reopened.

Mr. Jenkins, replying for the plaintiffs, said it was necessary to join Messrs. Leaning as defendants because unless they gave further certificates the plaintiffs could get nothing at all. The plaintiffs could only get what was certified for, and they were told that no further certificates were to be issued until the deficit was made up. He admitted that his clients had been overpaid, but the question was, How much? He did not seek to go behind Mr. Leaning's decision as a valuer. All he said was that Mr. Leaning was mistaken in his construction of the agreement.

Mr. Justice Branson, in giving judgment, said under the supplemental agreement the Corporation agreed to bring in Messrs. Leaning to make a valuation of the work already done, and then to proceed to give certificates from time to time as to allowances that were to be made during the progress of the work, down to the final certificate, which was to be given on the completion of the whole work. Messrs. Leaning had issued two certificates, and complaint was made as to both. It was admitted that in one certificate Messrs. Leaning had omitted to take into account previous payments made by the Corporation, and that in the other, having created a retention fund of £10,000 by deducting 10 per cent. on £100,000, they had deducted a further 5 per cent. It was said, on the one hand, that Messrs. Leaning, in making the deduction, were obviously wrong in their construction of the agreement. On the other side, it was said that the position of Messrs. Leaning under the supplemental agreement was such that, whether they had rightly or wrongly construed the agreement, they had been made the judges by the agreement between the parties, and in the absence of any fraud or misconduct on their part both parties were bound by their decision. It was admitted that the plaintiffs had received the sum of £951,982. They were entitled to £613,000, and therefore the Corporation had overpaid them something in the neighbourhood of £339,000. However, Mr. Leaning might be wrong in his construction of the agreement. His lordship was quite satisfied that that gentleman was perfectly honest in everything he did, and that he had endeavoured to carry out the agreement in a proper and faithful manner fair to both sides. On the question of fact as to whether Mr. Leaning had made his calculations on the basis of the increased prices of the houses, his lordship decided against the plaintiffs. He felt convinced that the plaintiffs, by their certificates, had got all they were entitled to. Bearing in mind that the certificates in question were not final certificates, but were subject to adjustment on the completion of the work, there was nothing wrong in the way the figures had been arrived at. Messrs. Leaning had acted properly in their execution of the contract, and the action would be dismissed, with costs.

INCREASE OF RENT: ALTERNATIVE ACCOMMODATION.

IT has been held in the case of Kimpson *v.* Markham (1921, 2 K.B. 157; *The Builder*, February 25) that the date at which alternative accommodation must be proved to be available is at the time an order for possession is made. In the recent case of Lees *v.* Duley (*Weekly Notes*, August 20) the plaintiff was claiming possession of a house let on a quarterly tenancy at £20 per annum. At the hearing (May 12, 1921) it was shown that at that time there was no alternative accommodation but that on July 1 there would be such accommodation. The county court judge had made the order for possession, but the divisional court set the order aside holding such an order could not be made under the the Act. Section 5, subsection (1) provides: "No order . . . for the recovery of any dwelling house . . . shall be made . . . unless (*d*) the court is satisfied that alternative accommodation, reasonably equivalent as regards rent and suitability in all respects, is available." As the court pointed out, that meant "is available at the time the order is made," not will be available, but the county court judge could have attained his object, if he had thought suitable accommodation would be available on July 1, by adjourning the case until he knew whether or not accommodation was available.

Whilst we are dealing with this question of alternative accommodation we may point out that many of the cases are reported without any reference being made as to the date at which the owner or landlord has become the landlord, and the omission of this fact has caused an apparent inconsistency in the decisions as to alternative accommodation. This date has a very material bearing on the latitude allowed to the courts in deciding whether an order for possession shall be made, for it must be borne in mind that in Section 5 it is provided that "the existence of alternative accommodation shall not be a condition of an order or judgment on any of the grounds specified in paragraph (*d*)" in four cases, the fourth of which is "where the landlord became the landlord before September 30, 1917, or, in the case of a dwelling-house to which Section 4 of the Increase of Rent Act, 1919, applied, became the landlord before March 5, 1919, or, in a case of a dwelling-house to which this Act applies but the enactments repealed by this Act did not apply, became the landlord before May 20, 1920, and in the opinion of the court greater hardship would be caused by refusing an order for possession than by granting it."

Thus, both the date at which the landlord became the landlord and the rent and rateable value of the house have a material bearing upon the order the court is able to make. The provision in the Act is badly expressed, but the intention appears to be to vary the date according to the three stages in which the limits of rent and rateable value of houses within this legislation have been increased. We have from time to time pointed out that this differentiation of the rights of landlords now operates unfairly, and that paragraph (*d*) should be amended so as to give the courts in all cases the same latitude in considering this question of alternative accommodation as they now possess only in the excepted cases.

HOUSING AND TOWN-PLANNING NOTES.

HOUSING PROBLEMS IN AMERICA.

WE have before us the proceedings of the eighth annual conference on housing held in America last December, which form a very interesting volume of nearly 400 pages, published by the National Housing Association of New York. The volume consists of 19 papers, 10 discussions, and reports of housing progress. The papers cover a very wide range of subjects, such as subsidies, taxation exemption, mortgages and bank loans, co-operative housing, standard construction, housing in France and England, rents, the position of landlord and tenant, the attitude of labour, and garden cities. Mr. Hennessy gives an interesting account of the proposed federal building loan bank system. It is proposed to establish eleven districts in the States for this purpose under the supervision of the Treasury, the intention being to lend money on reasonable terms to enable private people to build. Referring to the housing scheme in England, the writer considers this will lead to chaos and bankruptcy. Another writer describes the immediate success of a scheme for the purchase of houses by tenants (tenements in this case) by acquisition of stock and subsequently payments by monthly instalments.

Under "new materials," plaster board is recommended as cheaper and quicker than ordinary plaster. Some interesting views are given by the manager of the Bridgeport Housing Company, who says much time is wasted by men working in pairs, one waiting on the other, and anyone who has watched the contemplative attitude sometimes assumed in such cases will probably agree. Some jobs require more than one pair of hands, but not so many as we—or the operatives—are apt to think. Another point made is that economy is secured by doing as much work at the shop and as little on the job as is practicable.

Mr. Lawrence Veiller's paper on Government Housing in England is exceedingly illuminating as showing what this authority thinks of our policy, and we propose to give some particulars of these views later. The position of France is, of course, exceptional, and Government grants on a large scale are inevitable; Mr. G. B. Ford deals with this subject. Fair law between landlord and tenant, and the fact that economic laws of supply and demand must fix rents, are pressed home by Mr. H. G. Aron, while Mr. G. Woodward introduces some new ideas as to these relations. Some complimentary remarks are forthcoming about our garden cities, and in this respect Americans seem to be prepared to take us as an example.

We commend this volume to those interested in housing: and particularly at the present time, when our scheme at home has so entirely broken down, it would be well worth the while of those responsible for its reconstruction to study the views of others able in statesmanship, even if their conditions are not quite comparable with our own.

Proposed Bungalow Villages.

Two bungalow villages are contemplated in Gloucestershire, one on Painswick Hill and another on Cooper's Hill, about three miles from Gloucester. Both will have permanently uninterrupted views of the Cotswold Hills. The architect is Mr. W. I. Chambers, of Gloucester.

Extension of Bradford.

The decision of the Minister of Health on the application of Bradford Corporation to incorporate certain outlying districts recommends the incorporation in Bradford of Shipley, Baildon, Esholt, and Clayton, and parts of Rawdon, Yeadon, Calverley, and Pudsey. Other parts of these places will go to Leeds. It is understood the West Riding County Council will challenge confirmation of the provisional order. The result would be to increase Bradford's population from 283,979 to 330,337, area from 22,000 acres to 32,981, and rateable value from £2,325,000 to £2,548,892.

Scarborough Town-Planning Scheme.

The Borough Engineer has submitted a sketch plan to the Scarborough Town Council showing various areas in the borough in respect of which it is proposed to carry out a town-planning scheme. It was decided that the various town-planning schemes proposed to be carried out in the borough should be amalgamated into one scheme. A resolution was passed that in view of the acute shortage of houses no steps be taken at present to eject the present tenants of the houses in respect of which closing orders have been served, provided necessary repairs are done. This resolution does not affect the Council's right in future.

RENT RESTRICTION.

WE may refer to the case Cruise and Another *v.* Terrell (the *Times*, July 23), because it shows the danger of landlords taking possession of their premises otherwise than by process of law. The plaintiffs were two women (one a commercial traveller, the other a nurse)who had in February, 1919, taken a cottage from the defendant as a pleasure or rest house, paying £8 a year. They had paid rent for two years up to March 25, 1921, and on April 1 had tendered rent for another year, but the defendant had refused to receive it and on April 7 had sent a blacksmith to the cottage and placed a new lock on the door and locked the plaintiffs out, and he had threatened to remove the furniture. There was a contention that the tenancy was one from year to year, but the judge held that this was not so. The rent appears to have been 3s. a week paid for a year in advance, but this point is not very clear and is not material, as the court held that the Rent Act applied.

The action was brought by the plaintiffs for an injunction and damages, and the defendant counterclaimed for possession. The cottage was required by the defendant for the occupation of a keeper in the whole-time employment of a tenant who had taken the shooting, and thus the claim for possession was made under Section 5, subsection (1) (*d*). The court made an order for possession on the counterclaim, but on the claim awarded the plaintiffs £60 damages for trespass and breach of covenant for quiet enjoyment.

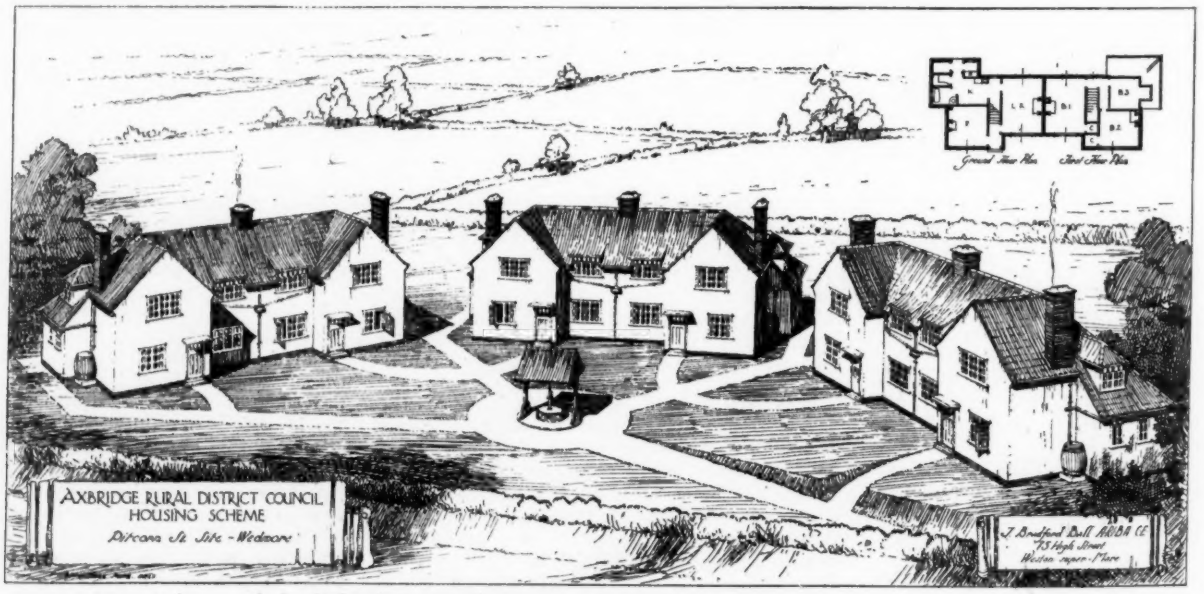
It is clear that where the Rent Act applies (as the court held it did in this case) the tenant who remains in possession cannot be treated as a trespasser. This was decided in Remon *v.* City of London Real Property Co., Ltd. (*The Builder*, February 11, 1921). He is a statutory tenant, and if the landlord takes forcible possession it is he who becomes the trespasser and liable in damages. The damages awarded in this case it will be seen were very high in the circumstances, amounting to more than seven years' rent, and therefore this point should be noted by landlords.

AXBRIDGE RURAL DISTRICT COUNCIL HOUSING SCHEME.

THE illustration on this page shows a bird's-eye view of six houses in course of erection at Wedmore, one of the rural sites being developed under the Axbridge Rural District Council's housing scheme, which comprises some 350 houses. The houses at Wedmore are of the parlour type with three bedrooms, built of brick and cement rough-cast, and have Bridgwater tile roofs. Similar type houses are in course of erection at Sandford and Brean.

In the case of the Wedmore houses, the water supply is by well, and electric light is being installed. Duckett's waste-water tippers and septic tank and filter, with Farrer's distributing fittings, will be utilised to avoid the use of earth closets.

Mr. W. R. Withers, of Wedmore, is the contractor erecting the houses under the Council's Architect, Mr. T. Bradford Ball, A.R.I.B.A., of Weston-super-Mare.



Axbridge Rural District Council Housing Scheme.
MR. T. BRADFORD BALL, A.R.I.B.A., Architect.

THE BUILDING TRADE.

SUPPLY OF BUILDING MATERIALS.

GENERAL Housing Memorandum, No. 56, issued by the Ministry of Health (dated August 25), gives particulars of a modified arrangement by which materials for housing schemes may be obtained at a reduced price for a limited period during the winding up of the Department of Building Materials Supply. The materials will be ordered from the makers by or with the authority of the Department as heretofore, but the invoices will be rendered direct to the local authority. The modified arrangement has been agreed in the case of cement by firms in the Cement Makers' Federation and certain firms who are not members of the Federation, and in the case of Sanitary Ware by firms in the Enamelled Sanitary Fireclay Makers' Association. These firms have agreed to continue the special concessions in price to the Government for housing schemes only, and have accepted the alteration in procedure for a limited period, in order to facilitate the work of winding-up the department.

CEMENT.—The following revised arrangement will be in force as regards all consignments of cement delivered on or after September 1, 1921, and before April 1, 1922 :—

(1) All requisitions for cement for housing schemes should be sent to the D.B.M.S., as heretofore.

(2) The Department will place the order with the makers (special measures being taken to avoid delay), and will send to the local authority a copy of the delivery instructions, on which the price will be stated.

(3) The cement will be invoiced to the local authority by the makers on D.B.M.S. Form P. 1955 at a special rebate of 3 per cent. below schedule price.

(4) The consignor's advice of despatch and the building contractor's acknowledgment of receipt (D.B.M.S. Form 1026) wi l be sent to the local authority instead of to the D.B.M.S.

(5) The arrangement will terminate on March 31, 1922, after which local authorities or their contractors will make their own arrangements.

ENAMELLED SANITARY FIRECLAY.—The following arrangements will be in force as regards all consignments of enamelled sanitary fireclay delivered on or after September 1, 1921, and before April 1, 1922.

(1) Requisitions may be placed, as at present, either direct with merchants or manufacturers, on the certificate of the accredited representative or through the D.B.M.S.

(2) The form of certificate will be amended so as to read as follows :—

Serial No.....

I hereby certify that Messrs..... of.....are contractors employed by this authority in connection with the Government housing scheme at.....and that I have satisfied myself that the goods detailed in the attached list No.....*dated..... are to be used solely on this work for the purpose of this scheme and should be supplied under D.B.M.S. contract at the special Government housing prices in force at date of delivery and invoiced to this authority.

(Signed) .....
Local authority .....
Date.....

* Each certificate should bear a serial number.

(3) Materials will be invoiced to the local authority by the makers, on D.B.M.S. Form P. 1955, at the special prices arranged with the Department.

(4) The consignor's advice of despatch and the consignee's acknowledgment of receipt (D.B.M.S. Form 1026) will be sent to the local authority.

(5) Breakages in transit from the manufacturer's works to railway station nearest site will be replaced if they are notified to the manufacturer within three days from the receipt of the goods and the Railway Co.'s delivery note is signed accordingly. Liability for breakage will not be recognised if the breakage occurs after delivery to the station nearest to site.

(6) No complaint as to quality will be recognised unless made in writing to the manufacturer within seven days from the date of delivery.

(7) Returnable packages should be returned promptly, carriage paid, and in good condition. If not returned within three months from date of despatch the cost of these packages will be charged to the local authority certifying the order. If returned after the expiration of three months from date of despatch, but within six months, 75 per cent. of the value will be allowed. After six months, no credit will be allowed. Non-returnable packages and packing material are supplied free.

(8) Price lists and a list of the names and addresses of manufacturers nearest the scheme may be obtained on application to the D.B.M.S., 1, Queen Anne's Gate Buildings, S.W. 1.

(9) The arrangement will terminate on March 31, 1922, after which local authorities or their contractors will make their own arrangements.

PAYMENT OF ACCOUNTS.—Payment is due to the manufacturers, under the terms of the arrangements, in the month following that in which the goods are delivered. In the case of cement and sanitary ware the consignee's acknowledgment of receipt (Form 1026) should be rendered to the authority instead of to the D.B.M.S.

DRAINPIPES.—The arrangements with the firms in the Pipe Associations will come to an end on November 3, 1921, after which local authorities or their contractors will make their own arrangements. In the meantime, no orders should be placed under D.B.M.S. arrangements unless delivery can be assured before that date.

LIGHT CASTINGS.—A memorandum dealing with the future arrangements for the supply of light castings will be issued shortly.

THE SOUTH-WESTERN FEDERATION OF BUILDING TRADE EMPLOYERS.

THE half-yearly meeting of the South-Western Federation of Building Trade Employers was held at Plymouth last week. Mr. John Wakeham (Plymouth), the President, occupied the chair.

In the course of the proceedings it was decided to press for the extension of the present 44-hour week to a working week of as near 50 hours as practicable.

In connection with the scheme for the absorption of 50,000 ex-Service men in the building industry, a resolution was passed to the effect that in future the members of the Federation would only employ bricklayers, plasterers, slaters, and tilers who were willing to work harmoniously with, and to assist in the training of, ex Service men. The meeting also expressed the opinion that the present shortage of labour could be alleviated if the maximum number of apprentices according to the Rule were employed by every builder.

The question of the opposition of the trade unions to the use of imported joinery was discussed, and the meeting agreed to insist on the right of builders to use joinery whether made at home or abroad, so long as it is made under fair conditions of labour.

In the afternoon the members visited Tavistock by chars-à-bancs, where they were entertained by the Plymouth Building Trade Employers' Association.

THE PLASTICITY OF GYPSUM.

INTERNAL plastering is generally of three coats, "render, float, and set," known in America as "scratch, brown, and finish." The third or finishing coat is usually only $\frac{1}{16}$ in. to $\frac{1}{8}$ in. in thickness, and forms a thin layer in comparison with the other two preceding coats. It is convenient that the finishing coat should be able to set in twenty or thirty minutes in order that the plasterer may finish the trowelling of the surface before moving his scaffold. Generally, the finishing thin coat is composed of lime and gypsum, the former to give the necessary plasticity and the latter to add the quick-setting property.

This mixing is, however, sometimes troublesome as the lime requires considerable soaking, whilst the gypsum must not be soaked at all before using, or it will set. The two materials must therefore be separately prepared at considerable cost, more equipment, and possibly delay.

Sometimes, to avoid this, 10 to 15 per cent. of hydrated lime is added to gypsum by the manufacturer to save trouble, and so that the material shall be ready for use. Lime will carry three-parts of sand, and at the same time the superior plasticity of the lime reduces the cost of application; whilst gypsum will only carry two parts of sand, and is therefore more expensive.

If gypsum could be made as plastic as lime it would not be necessary to add any lime to the gypsum when using the latter as a finishing coat. It would also then carry the same proportion of sand as the lime, and it would not be necessary for the gypsum maker to add any proportion of lime before sending out his material. All these advantages would decrease the cost of this important building material. This increasing of the plasticity of gypsum has, it is reported, recently been accomplished, and a patent is being taken out for a new process which will shortly be available, gratis, in the United States.

Formerly, when the gypsum was ground, the water of crystallisation was released from it, the current of air passing through the mill carrying off the water as fast as it was liberated by the grinding process. The resulting product has a great affinity for water and soon absorbs moisture from the air, thus going back to its previous condition.

It appears that the new process is simply a question of grinding the gypsum in a certain special form of mill, or by the addition of a certain amount of water to make up for that lost during the grinding process. In the new method of grinding the water is, of course, liberated, but is not permitted to escape, with the result that more plasticity is given to the gypsum. As a matter of fact, calcined gypsum can be made even more plastic than lime, and the material after setting will average about 20 per cent. greater strength than ordinary calcined gypsum or plaster of Paris. Samples of the new plastic gypsum have been exposed to the air for four months without any apparent deterioration of the valuable quality of plasticity. This is not an additional process to that usually adopted for the manufacture of calcined gypsum for building purposes, as in any case the material is always calcined and finely ground.

It may be that the new process will be a longer one than the old method, which will cause a diminution of the output and so to some extent increase the cost. But no added equipment is required, and the quality of increased plasticity is not dependent upon the addition of any other material.

The Late Sir Herbert Bartlett.

Sir Herbert H. Bartlett, Bart., late Chairman of Messrs. Perry & Co. (Bow), Ltd., who died early in July, left estate of the gross value of £486,680, with net personalty of £476,639.

WHITE LEAD IN PAINT.

In the course of a paper entitled "Paints, Painting, and Painters," read at the Royal Society of Arts recently, Messrs. Henry E. Armstrong, F.R.S., and C. A. Klein dealt with the question of the effects of white lead in paint on the health of painters.

After giving particulars and results of a large number of tests that had been undertaken on this subject, the authors stated that if painters took certain elementary precautions they had little to fear from lead poisoning arising out of their work. The evils arising from dust might be overcome by substituting wet for dry rubbing down; on occasions when that was not possible, the operation might be rendered harmless by wearing a simple respirator over the nose and mouth. The effects of splashing during overhead work might be avoided by a simple screen worn over the mouth. The effect of turpentine and other vapours could be avoided by working in a properly ventilated apartment. Care should be taken of hands and clothes and that paint was neither eaten nor smoked.

The dangers had been exaggerated: the painter's occupation was not an unhealthy one. The class was largely migratory, and the workman was rarely occupied on the same kind of work during a long period. In factories, where the occupation was more uniform, supervision could be more easily exercised, and the necessary precautions observed. It was to be remembered also that the welfare measures introduced of late had had a great effect in teaching workers to be careful.

The most important lesson to be learnt by workers was that there should be proper choice of food—that improper feeding, food improper in quality rather than in quantity, was at the root of much industrial ill-health.

The attempt to shut down an entire industry because its practice was not entirely without risk, was foredoomed to failure: no industry, no occupation, could survive such a test. The claim of the white lead industry was that it was one which rendered great public service, and a service which no substituted industry could well render. The decoration of houses had always been a costly business, and of late the cost had been all but prohibitive—they would, therefore, desire to use materials that were lasting in preference to those which had but a short life, especially under external conditions. White lead was not used without reason. Paint was a complex material, but one thing was certain, namely, that by the interaction of white lead and oil a material was formed which had special properties not possessed by the products obtained by the use of white lead substitutes. White lead paint had stood the test of time.

In the subsequent discussion, Sir Kenneth Goadby, K.B.E., D.P.H. (Specialist Medical Referee for Industrial Poisoning, London and Home Counties), said those who were interested in the prevention of lead poisoning had found, after a good deal of experiment, that practically all the lead poisoning that occurred amongst lead workers, amongst painters, and even to a large extent amongst plumbers, was caused by dust. That fact formed the basis of all the present legislation on the prevention of lead poisoning and of all the good work that had followed from the Home Office study of the question of dust as a source of poisoning, and an enormous decrease in lead poisoning had taken place in all those industries where dust had been prevented. The experiments of the authors of the paper had shown that a great many of the particles of paint splashes were hundreds of times larger than any particle that would be taken down the moist tubeway of the lung. That was very important, because it enabled one to ignore as a source of poisoning a factor on which there was a certain divergence of opinion. He was sure that a very large proportion of the cases that were attributed to poisoning with lead were not cases of poisoning with lead at all, but it was a very difficult matter to prove they were not cases of metallic poisoning. With regard to volatile substances, the fact that volatile substances given off in certain occupations might produce disease was in some ways more or less new and in other ways it was old. Turpentine had been known for some time to be an irritant, but the diseases which had been ascribed to turpentine did not have symptoms which would be confounded with those of lead poisoning. In connection with volatile compounds there was something further to consider than the question of turpentine. Turpentine was a term used in rather a generalised sense to mean all the volatile substances used for thinning paint. Amongst those there was at the present time a number of substances which would cause far more disease than white lead had done if they were introduced on a large scale. The question of splashing had always been a little difficult to understand. There appeared to be very little reason indeed now for supposing that the small particles of lead thrown off from the brush were likely to gain an entrance into the lungs, and he thought that had disposed of one of the serious objections to the use of lead paints. The experiments that had been made also showed that the painter was much more subject to inhaling the volatile compounds of his paint than to inhaling the solid particles of it.

Mr. Noel Heaton said it was well known that there was a very great difference between the amount of splashing produced by a man to whom the brush was a proper tool and the amount produced by an inexperienced man. That was a very important point, because the authors had proved conclusively that the expert painter would scarcely suffer at all from trouble owing to splashing, and it was amongst the inexpert painters that any trouble possible in that connection was likely to occur. It was, therefore, very important to insist on the education of the painter at the present time and to limit as far as possible the number of inexpert painters that were employed.

Timber Disposal Department.

It is announced by the Board of Trade that the three branches concerned with the liquidation of the Board's stocks of timber, viz.:—Home-Grown Timber Department, Endell-street, W.C. 2; Home Timber Accounts Branch, 52, Broad-street, W.C. 2; and Imported Timber Disposal Section, 49, Wellington-street, W.C. 2, have been combined into one department, known as the Timber Disposal Department. All communications on the business of the several branches should now be addressed to the Acting Controller, Timber Disposal Department, Board of Trade, 49, Wellington-street, W.C. 2.

Public Works in the Malay States.

The British Adviser to the Government of Kedah, Malay States, is desirous of receiving in connection with projected public undertakings in Kedah trade catalogues of:—(1) Water supply machinery, pipes, meters, and fittings; (2) sanitary appliances; (3) belting and shafting; (4) structural steelwork; (5) machine tools; (6) stone crushers and concrete mixers; (7) building materials and fittings; (8) lifting and hauling appliances. Communications should be addressed to the British Adviser, Alor Star, Kedah, Malay States.

The Exports Credit Scheme.

The Board of Trade has added Italy and Portugal (including Portuguese colonies) to the list of countries included in the new export credits scheme. Inquiries in this connection should be addressed to the Director of the Export Credits Department, 73, Basinghall-street, W.C.2, from whom forms of application can be obtained.

TESTING AND STANDARDIZATION OF MATERIALS OF CONSTRUCTION.

We drew attention in a recent issue (August 12) to the reports of the American Society for Testing Materials, and now deal with further reports.

Brick for Sewer Construction.

A short account is given of the specification requirements of clay sewer brick, much used in America. Four classes of brick are recognised:—Vitrified Nos. 1 and 2, for sewage velocities up to 18 ft. and 12 ft. per second respectively; hard brick for velocities up to 8 ft.; and medium brick for storm-water only. Chemical, physical and visual inspection tests are specified. The material is to be from surface clay, fireclay or shale, and the size 2¼ in. by 3¾ in. by 8 in. to 3½ in. by 4 in. by 8½ in. Caustic lime or iron pyrites in the brick or clay may cause rejection. The absorption test is to be made on five bricks dried till their weight is constant and then completely immersed in water at 60 to 80 deg. F. The water is then raised to boiling point within an hour, kept boiling for five hours and then cooled; the bricks are then weighed after being wiped. The percentage of absorption is calculated on the dry weight.

Compression tests are to be made on half-bricks on edge, the bricks being sawn or clean cut and set in the machine in plaster of Paris to give an even bearing. Breaking load by bending is determined by setting the bricks flat on rounded "knife edges" 7 in. apart and applying the load in the centre.

The requirements of these tests for approval of the material are for the mean of five tests: Absorption, No. 1 brick, max. 3 per cent.; No. 2 brick, 5 per cent.; hard brick, 10 per cent.; medium brick, 15 per cent. Compression: Nos. 1 and 2, 5,000 or more lb. per square inch; hard, 3,500 lb. per sq. in.; medium, 2,000 lb. per sq. in. Rupture: Nos. 1 and 2, 1,200 lb. per sq. in. or over; hard, 600 lb. per sq. in.; medium, 450 lb. per sq. in.

Visual tests include shape, freedom from cracks, hardness, and absence of visible impurities.

Hollow Building Tiles.

Hollow tiles or bricks have now such a wide use in construction that a specification for such materials should be welcome. The Committee makes a distinction between a large variety of those tiles which are made from shale, fireclay, or ordinary clay. It was found impossible to produce a satisfactory absorption test, no relation between water absorbed and quality being ascertainable. Extreme density, however, means poor fire-resisting qualities. Freezing tests are recommended, and, as a difference has been found between broken fragments and pieces sawn off, the latter are recommended as necessary for a suitable test.

The average compressive strength for hollow building tiles to be used with cells vertical and tested in such a position is to be not less than 1,500 lb. per sq. in. of the gross area of the bearing face, while for tiles used horizontally and so tested the strength should be at least 700 lb. per sq. in. The specimens are fixed in the compression machine with a thin layer of plaster of Paris after treatment of the bearing faces with shellac.

Conditions are also laid down for the fusing test. The method of selecting samples is given, and the conditions which shall determine rejection. Strength is to be taken as the average of five specimens, but only one should give a result less than 80 per cent. of the strength specified. Sorting preparatory to a new test is to be at the vendor's option in the event of a not too hopeless failure—the limit being defined—to pass the test.

We think some tests on these lines would be valuable in this country, where acceptance or rejection often depends upon the personal opinion of a clerk of works unaided by laboratory experts.

ORGANISATION IN THE BUILDING INDUSTRY.

IN view of the discussion that has taken place in this country on the subject of organisation in the building industry, a report which has been issued by the Committee on the Elimination of Waste in Industry of the American Engineering Council is of interest.

In the section of the report dealing with the building industry, it is stated that the chief sources of waste in the building industry are irregular employment, inefficient management, and wasteful labour regulations. Customs or conditions prevailing throughout the industry and poorly-designed equipment are given as secondary causes. The annual economic loss in the United States due to accidents is estimated as high as $120,000,000, and the application of safety methods, it is stated, would save to the industry 12,000,000 days a year. The building trade workman is busy on the average about 190 days in the year, or two-thirds of his time. A few contractors, individually or associated, are attacking this problem with effective results. The public also must be educated to the need of sensible distribution through the year of its construction demands and requirements. Idleness, however, is due entirely to seasonal demands; strikes and lockouts are appreciable causes. Haphazard management in planning and controlling work and lack of standards, which often double the labour cost, characterise most construction undertakings. Here, again, a few builders, recognising the waste in money and man power, are adopting methods that approach modern factory management. Union regulations in the past have produced enormous losses through direct or indirect restriction of output. Workmen and contractors, however, are beginning to appreciate that reduced output reacts in tremendous fashion upon themselves.

The Need for Co-operation.

Greater co-operation between the workmen and the employers is an absolute essential. Such co-operation, however, is impossible without the removal of causes of friction and the working out of plans to that end

Analysing the causes of building waste, the report says irregular employment is due to seasonal fluctuations, bad weather, strikes and lockouts. Inefficient management is blamed for failure to furnish continuity of employment; failure to plan work in sufficient detail; lack of proper schedules to allow proper co-ordination of scheduling, purchasing and delivery with job requirements; lack of standard and adequate cost methods as a means of checking production; high labour turnover; failure to use proper amount or type of equipment; general failure to develop and use a greater amount of mechanical equipment; and waste of material through careless handling and improper plant operations. Wasteful labour regulations consist of requiring skilled men to do work that could be performed by unskilled men, restricting individual incentive through requiring uniform wages, limiting the number of apprentices, excessive reduction of working hours, restricting output by prohibiting the use of labour-saving devices, and jurisdictional regulations. Additional sources of waste are failure of architects to furnish check plans and specifications, duplication of labour in estimating and often in design, and accidents, which are particularly important in the building industry because of the extra-hazardous nature of the work.

Intermittent Employment.

Representative average conditions in the building trades of Philadelphia and vicinity show that the days at work per man average 189 per year for the various trades in Philadelphia. The average of estimates reported by contractors is 210 working days a year. Over half of the lost time, it is estimated, is due to bad weather and the balance chiefly in waiting for or looking for work. Contractors have given the effect of labour turnover little consideration. Men leave because of the type of work they are to perform, risk involved, unfair treatment by foreman, and so on. They are discharged because of lack of work, incompetence, laziness, causing trouble, or because better men are available. Although efforts toward reducing seasonal unemployment have been local and often spasmodical, recent developments and conferences have shown the possibilities of vast improvement.

The means of bringing about a reduction of seasonal unemployment is outlined as follows:—"Allowance of a small margin of profit for both labour and capital during winter months, development of methods of conducting the work in cold weather, arrangement of work to provide indoor operations in cold and stormy weather, organisation of a clearing house for co-ordination of activities, increasing the usefulness of employment bureaus, and educating the public. Contractors must prove to the public that they can carry on operations during the winter period as economically and substantially as during other periods of the year. To do this, contractors, labour, transportation, and material men in a locality must all get together and, after joint study of the situation, agree to reduce profits and wages by an amount that will offset the increased cost of carrying on work in winter months. The education of the public is vital to a sensible distribution of work throughout the year. This applies equally to industrial, public and residential construction, and household repairs and maintenance. Instead of crowding the main construction work into seven or eight months, all that can be deferred from the busy to the more idle season should be scheduled. Owners making interior repairs or slight additions should be encouraged to have this work done in the off-peak season. Old buildings to be demolished to make room for new ones should be torn down in cold weather in advance of the new construction instead of waiting, as is often done, until the new building ought to be under way. With a central bureau, under the auspices of the employers, the workmen, and the public, these and many other things would be studied with effective results."

Labour Troubles.

The strike is one of the greatest economic wastes to be found in the building industry, states the report. The waste to the men engaged, the contractor, and the public, is hard to estimate. The major causes of strikes are occasioned by demands for increase in wages, recognition of the union, decrease in working hours, and by jurisdictional disputes. Incidental to these causes and often aggravating them are the working conditions, while in almost every case the prime factor is the lack of understanding and failure of the employers and the workers to get together. If the greatest cause, the demand for an increase in wages, could be eliminated, strikes as a factor of waste would shrink into insignificance. The remedy that suggests itself is co-operation. Management and labour must forget the sore spots of past conflicts and through whole-hearted co-operation fix by proper studies a minimum wage to correspond with a standard amount of production, with additional compensation for additional output. This would furnish an incentive to men and would give recognition to deserving mechanics.

Unions must co-operate to the extent of eliminating the flat rate for all mechanics of a trade, and to the extent of modifying the restriction that forbids mechanics to accept piece work. With definite standards fixed and with the co-operation of both parties fair incentives can be introduced. The most encouraging sign in the elimination of the above causes is found in what is known as the "Philadelphia Plan" put forward by the labour element of that city. This contemplates the organisation into a single body through associations, groups or committees, of each employing branch of the building industry in number at least equal to the nineteen represented in the Council of the Associated Building Trades. A committee, composed of an equal number of representatives from the groups of employer and employed, would constitute the tribunal or council of the building industry in Philadelphia. The plan includes the establishment of a central bureau through which voluntarily all construction programmes in the territory should be cleared, including national, state, municipal, and private work. The old methods must not be replaced by a "go-easy" policy which takes all the stamina and character and individuality out of a man, but by well-defined methods, such as definite records of accomplishment, scales of wages based upon quality and quantity of work done, or bonuses for coming within the required standards of quality and production. All these devices, however, are worthless without determination of standards, knowledge of a proper day's work, and control of the work and materials as above described.

Output.

General failure of the building industry as a whole to develop and use a greater amount of mechanical equipment is an established fact, the report says. Union objection to labour-saving devices is wrong in principle, and will be relegated to the past, like the restriction of output. With thorough co-operation of unions with employers and the development of the old guild spirit, which tends to give a man pride in the quantity and quality of his work, there is the possibility of increasing production and, by these means, of maintaining high wages yet with a resultant lowering of costs. Lower labour costs mean more building and more continuous employment for the workers. Many union rules are absolutely wrong and uneconomical. Many unions have exceeded the limits of fairness, and, partly because of the leaders' lack of appreciation of the fundamental need for high production, have formulated by-laws, and, in individual cases, have formulated demands that have been a tremendous factor, directly or indirectly, in the restriction of output. This has resulted in increase in cost and reduction in the demand for building. It represents, in fact, one of the great sources of waste in the building industry. This policy has reacted, resulting in widespread opposition to unions. In fact, some of the most successful building contractors employ non-union labour because of their opposition to unjust union rules and requirements. It must be recognised that the unions are by no means alone in their restriction of output. The contractors and builders and supply dealers affect the situation to as great a degree indirectly by maintenance of high prices, collusion in bidding, and unfair practices. Collusion between unions and employers has also raised prices unduly. One of the greatest fundamental causes for low output is the fact that all members of unions in the same trade are paid the same wage. There is no incentive. As a result of records made by the Committee on actual construction work, it was found that in the building trades on every job there are usually a few men who do one-third more work than the average man on the same job. These men also do better work. Is it fair to these good men, asks the report, for them to receive the same wage as the others? Restriction of apprentices in many cases is extreme and unfair. Overtime and travel rules also tend to increase building costs unduly. A potent source of labour waste is the jurisdictional practice which distributes certain types of work to different trades, frequently without regard to expense. One of the principal aims of the trade unions, the report states, should be to make their services valuable to the employer by developing and training the men in their organisation and establishing a high standard, by assisting in the development of standardisation of time, method and material.

Losses Through Accidents.

Enormous losses are suffered through accidents, the $30,000,000 paid yearly to insurance companies for compensation and liability insurance by no means representing the total loss, while the total economic loss is estimated at $120,000,000 per year. Accidents are largely caused by carelessness of the workmen, or lack of ordinary safeguards, and conditions which would not be tolerated in a factory for 24 hours are found on every job. It is estimated that by proper safety measures the waste due to

accidents can be reduced to 75 per cent. in from two to five years, and that construction labour cost can be cut three per cent. by these measures.

Architects, the report says, frequently cause expensive delays and occasionally complete shutdowns by failure to deliver detail plans at the proper time. The waste of time and energy and money through duplication of estimates and of designs, it is declared, runs into millions every year. An equal, if not greater, source of waste is said to be the duplication in figuring quantities by all bidders.

The report states: "The most encouraging feature in the building industry to-day is the action of a few of the builders and a few groups of building trade workmen in making intensive studies of the causes and remedies for irregular employment and haphazard conditions of work. Along with this is the growing appreciation on the part of both labour and management that to build more buildings and maintain high wages it is necessary to attain greater and greater productive capacity per man. They see as proof of these facts that the 1921 depression was caused and extended by too high costs of all products, and that business, either in manufacturing or in building industries, is improving only as the costs of material and the cost of labour are reducing. All are recognising, in fact, that no progress can be made without paying greater and greater attention to the elimination of waste."

Building Trade Wages in North Staffordshire.

Differences of opinion have arisen on the wages question in the building trade in North Staffordshire. Recently the North Staffordshire Master Builders' and Allied Trades' Federation passed a resolution that as and from August 20 the wages of the craftsmen and labourers be reduced by 1d. per hour, with a further reduction of ½d. per hour in the wages of craftsmen and 1½d. per hour in the case of labourers as from September 1 next. The operatives objected to the proposed reduction in wages, and at a mass meeting at Stoke-on-Trent passed a resolution refusing to accept the employers' terms as a termination of their contract of service. The point of view which the operatives take apparently is that their agreement with the employers has not been terminated, and that if the employers fail to employ the men when they present themselves for work at the old rate it would mean a lockout.

The local employers are not affiliated to the National Federation and are not parties to the national agreement. The operatives contend that the local reduction is equivalent only to Grade B, whereas they are entitled to Grade A rates.

Strike against a Bonus on Output.

Owing to their acceptance of a bonus on output scheme, the bricklayers employed by Messrs. W. G. Tarrant, Ltd., on the Scunthorpe housing scheme have been called out on strike by the Operative Bricklayers' Society, and the operatives employed in other trades on the work have struck work in sympathy. It appears that the contractors offered the bricklayers the trade union rate of 2s. 1d. an hour plus a bonus assessed on the amount of work done above a specified amount, which brought the total wage up to 2s. 6d. an hour. The Operative Bricklayers' Society decided that the scheme amounted to a system of piece-work, and called its members out on strike. The Scunthorpe scheme comprises 225 houses, which have to be built as quickly as possible in order to qualify for the Government subsidy.

Commercial Motor Vehicles.

Bristol has been selected for the fourth provincial conference of the National Council of the Commercial Motor Users' Association, to be held on October 5 and 6. Sir Henry Maybury, K.C.M.G. (Director-General, Roads Department, Ministry of Transport), has promised to attend.

RATES OF WAGES IN THE BUILDING TRADE.

THE following are the present rates of wages in the building trade in the principal towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Bricklayers' Plasterers' Labourers.
Aberdare	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Accrington	2/0	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Altrincham	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Ashton-under-Lyne	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Barnsley	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Barrow-in-Furness	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Barry	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Bath	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/5
Bedford	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/4
Birkenhead	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/9½
Birmingham	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Bishop Auckland	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Blackburn	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Blackpool	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Bolton	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Bournemouth	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/4
Bradford	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Bridgwater	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/3
Brighton	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/4
Bristol	2/0½	2/0½	2/0½	2/0½	2/0½	2/ ½	2/0½	1/7½
Burnley	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Burton-on-Trent	1/11	1/11	1/11	1/11	1/11	1/11	1/11	1/6
Bury	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Cambridge	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/4
Cardiff	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Chatham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/3½
Chelmsford	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/4
Cheltenham	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/5
Chester	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Chesterfield	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Colchester	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/4
Coventry	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Crewe	1/11	1/11	1/11	1/11	1/11	1/11	1/11	1/6
Darlington	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Derby	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Doncaster	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Dudley	1/11	1/11	1/11	1/11	1/11	1/11	1/11	1/6
Durham	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
East Glam. and Mon. Valleys	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Exeter	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/4
Folkestone	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/3½
Gloucester	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/5
Grantham	1/11	1/11	1/11	1/11	1/11	1/11	1/11	1/6
Grays	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/11½	1/7½
Grimsby	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Great Yarmouth	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/3½
Guildford	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/4
Halifax	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Harrogate	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Hartlepools	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Hastings	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/3½
Hereford	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/5
Huddersfield	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Hull	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Ipswich	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/4
Lancaster	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Leamington Spa	1/11	1/11	1/11	1/11	1/11	1/11	1/11	1/6
Leeds	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Leicester	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Lichfield	1/11	1/11	1/11	1/11	1/11	1/11	1/11	1/6
Lincoln	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Liverpool	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/9½
Llanelly	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
London	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/11½	1/7½
Loughborough	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Luton	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/4
Maidstone	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/3½
Manchester	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Mansfield	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Merthyr Tydfil	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Middlesbrough	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Newcastle-on-Tyne	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Newport, Mon.	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Northampton	1/11	1/11	1/11	1/11	1/11	1/11	1/11	1/6
Norwich	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/4
Nottingham	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Oakham	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/5
Oldham	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Oxford	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/4
Plymouth	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/9½	1/6
Pontypridd	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Portsmouth	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/4
Preston	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Reading	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/4
Rochdale	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Rochester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/3½
Rugby	1/11	1/11	1/11	1/11	1/11	1/11	1/11	1/6
St. Albans	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/4
St. Helen's	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Scarborough	1/11	1/11	1/11	1/11	1/11	1/11	1/11	1/6
Sheffield	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Shrewsbury	1/11	1/11	1/11	1/11	1/11	1/11	1/11	1/6
Southampton	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/4
Southend-on-Sea	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/4
Southport	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
South Shields	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Stockport	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Stockton-on-Tees	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/6
Stoke-on-Trent	1/11	1/11	1/11	1/11	1/11	1/11	1/11	1/4
Stroud	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8	1/7½
Sunderland	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Swansea	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/4
Taunton	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/4
Torquay	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/4
Tunbridge Wells	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½
Wakefield	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/6
Walsall	1/11	1/11	1/11	1/11	1/11	1/11	1/11	1/7½
Warrington	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
West Bromwich	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Wigan	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/4
Windsor	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½
Wolverhampton	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/6
Worcester	1/11	1/11	1/11	1/11	1/11	1/11	1/11	1/6
York	1/11	1/11	1/11	1/11	1/11	1/11	1/11	

[*.* The above rates show the reductions which came into force yesterday, September 1.]

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.

BUILDING AND PAINTING.

SEPTEMBER 3.—**Bishop's Castle.**—HOUSES.—Erection of 22 houses, for the U.D.C. Messrs. Davies & Hill, architects, Severn-square, Newtown, Montgomery. Deposit £1 1s.

SEPTEMBER 5.—**Ashton-under-Lyne.**—HOUSES.—Erection and completion of 68 "A" type houses, to be erected on the Heys Estate, off Mossley-road, Ashton-under-Lyne, for Housing Committee of the T.C. Messrs. W. H. George & Son, architects, 7, Warrington-street, Ashton-under-Lyne. Deposit £2 2s.

SEPTEMBER 5.—**Edinburgh.**—SUB-STATION.—Excavator, mason and brick; carpenter, joiner and glazier; plaster and concrete; and plumber works, required in the construction of new electric sub-station, Causeway-side, for the Edinburgh T.C. Mr. James A. Williamson, City Architect, Public Works Office, Edinburgh.

SEPTEMBER 5.—**Glasgow.**—PAINTING.—Painting and cleaning works required in connection with the Greenhead housing scheme, for the T.C. Mr. J. Lindsay, Town Clerk, City Chambers, Glasgow.

SEPTEMBER 5.—**Hornchurch.**—VARIOUS WORKS.—Laying floor, heating, &c., at the Hostel, Sutton's Farm, for the Board of Guardians. Mr. R. H. Mason, Clerk, Union Offices, Romford. Deposit £1 1s.

SEPTEMBER 5.—**Lenzie.**—BUILDER'S WORK.—Various works in connection with the erection of eight houses, for District Committee of the Lower Ward of the County of Lanark. Mr. J. A. M'Callum, District Clerk, 15, West George-street, Glasgow. Deposit £1 1s. per schedule.

SEPTEMBER 5.—**Manchester.**—OFFICE.—Construction of manager's office at the Free Trade Hall, for the Town Hall Committee of Manchester. City Architect, Town Hall, Manchester. Deposit £1 1s.

SEPTEMBER 5.—**Throckley.**—FLOORING.—For the laying of new floor at the Society's Hall, for the Throckley Co-operative Society, Ltd. (separate tenders for white and red wood and wooden blocks). Mr. W. Harrison, secretary.

SEPTEMBER 5.—**Warrington.**—PAINTING.—Decorating inside Art Gallery at the Museum, for Warrington T.C. Mr. A. M. Kerr, Borough Engineer and Surveyor, Town Hall, Warrington.

SEPTEMBER 6.—**Andover.**—ALTERATIONS.—Alterations and additions to the Society's Central Premises, Bridge-street, Andover, for the Committee of the Andover Co-operative Society, Ltd. Architect's Dept., Co-operative Wholesale Society, Ltd., 80, Leman-street, London, E. 1.

SEPTEMBER 6.—**Barnsley.**—ALTERATIONS AND ADDITIONS.—For alterations and additions to the Borough Police Offices, St. Mary's-gate, Barnsley. The Borough Surveyor, Fairfield House, Barnsley.

SEPTEMBER 6.—**Barnsley.**—PLUMBING.—Plumbing work in connection with conversion of privies into water-closets, for T.C. Borough Engineer, Fairfield House, Barnsley.

SEPTEMBER 6.—**Barry.**—CEMENTING.—Cementing at 15 and 16, Park-crescent, Barry, for Cardiff Board of Guardians. Mr. A. J. Harris, Clerk, 11, Park-place, Cardiff.

✱SEPTEMBER 6.—**Beverley.**—ARTIFICERS' WORKS.—For artificers' works at Beverley, Scarborough and Paull-on-Humber. Commanding R.E., "The Minories," Jesmond-road, Newcastle-on-Tyne.

SEPTEMBER 6.—**Blackrock (Ireland).**—SCHOOL SHELTER, &C.—Erection of a shelter, sanitary accommodation and other equipment in the children's playground at Temple-road, for the Blackrock Urban District Council. Surveyor's Office, Town Hall, Blackrock.

SEPTEMBER 6.—**Bristol.**—BUILDING.—Completion of the swimming bath section of the Public Baths, Gloucester-road, Bishopston, for the Baths Committee of the City and County of Bristol. City Engineer's and Surveyor's Office, 63, Queen-square, Bristol. Deposit three guineas.

SEPTEMBER 6.—**Hammersmith.**—TEMPORARY OFFICES.—Steel-framed wood and iron structure, 80 ft. by 50 ft. by 13 ft., for the Hammersmith B.C. Mr. R Hampton Clucas, Borough Engineer, Town Hall, Hammersmith, W.6.

SEPTEMBER 7.—**Auckland.**—PAINTING.—Painting the outside of the Administrative Block and porter's lodge at the Tindale-crescent Hospital, for Auckland, Shildon and Willington Joint Hospital Board. Mr. Sam Adams, Clerk, Union Offices, Bishop Auckland.

SEPTEMBER 7.—**Chigwell.**—ALTERATIONS.—Alterations and provision of new classrooms at Chigwell Grammar School. Mr. Jno. Stuart, County Architect, County Offices, Old Court, Springfield, Chelmsford. Deposit £1 1s.

SEPTEMBER 7.—**Easington.**—STABLES, &C.—For the erection of stables and part shed at Murton Colliery, for the Easington Rural District Council. Mr. F. W. Girven, Surveyor, Easington Colliery Co., Durham.

SEPTEMBER 7.—**Hale.**—CLOSETS.—Conversion of eight pail closets at Hale Green cottages, Grove-lane, Hale, and four privies at Brickfield Cottages, Grove-lane, Hale, to water closets, for Hale U.D.C. Sanitary Inspector, Council Offices, Hale.

SEPTEMBER 7.—**Hull.**—ROOFING.—Steel framing for electricity sub-station, Dansom-lane, for the T.C. Mr. F. W. Bricknell, City Engineer, Guildhall, Hull. Deposit £1.

SEPTEMBER 7.—**Middleton-in-Teesdale.**—HEATING CHAMBER.—Construction of a heating chamber and other builders' work in connection with the installation of a hot water heating apparatus at school, for the C.C. Mr. F. Willey, architect, 34, Old Elvet, Durham.

SEPTEMBER 7.—**Windlesham.**—MORTUARY, &C.—Erection of buildings, comprising mortuary, waiting-room, &c., entrance gates and piers and incidental works at the New Cemetery, for the U.D.C. Mr. J. F. Weeks, Surveyor, Council Offices, Bagshot. Deposit £1 1s.

SEPTEMBER 7.—**Wrexham.**—HOUSES.—For the erection of twenty-four houses in brick, on the Rhosrhedyn site, for the Wrexham T.C. Mr. J. Herbert Edwards, Surveyor to the Council. Deposit £2 2s.

✱SEPTEMBER 8.—**Cardiff.**—FINISHING.—Finishing of semi-detached houses at Ely for the Cardiff Corporation. Mr. E. J. Elford, City Architect, City Hall, Cardiff. Deposit, two guineas.

SEPTEMBER 8.—**Durham.**—HOUSES.—Erection of 86 houses at Stanley, Co. Durham. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W. 1. Deposit £1 1s.

SEPTEMBER 9.—**London, W.**—ALTERATIONS.—Alterations to boiler house at the Post Office Savings Bank, West Kensington, London, W., for the Commissioners of H.M. Office of Works. Contracts Branch, King Charles-street, London, S.W.1 Deposit £1 1s.

SEPTEMBER 9.—LOWESTOFT.—ADAPTATION.—Adaptation for use as a hospital (including painting and cleaning) of Empire Hotel, Lowestoft, for the Metropolitan Asylums Board. Mr. E. Vincent Harris, architect, 29, St. James's-square, S.W. 1. Office of the Board, Embankment, London, E.C. 4. Deposit £3.

SEPTEMBER 9.—**Nottingham.**—BATHS.—(1), Alterations and additions at Radford Baths; (2), alterations and additions at Northern Baths, Basford; (3), alterations at Trent Baths, for T.C. Public Baths Committee. City Architect's Office, Guildhall, Nottingham. Deposit £1 for each contract.

SEPTEMBER 10.—**Glamorgan.**—PAINTING AND REPAIRS.—For (1) Abercynon Police Station and Court—Internal and external painting, repairs, &c.; (2) Aberkenfig Police Station—external painting and repairs; (3) Bargoed Police Station and Court—internal and external painting, repairs, &c.; (4) Barry Police Station—internal and external painting, repairs, &c.; (5) Cwmaman Police Station—internal painting, repairs, &c.; (6) Cwmgwrach Police Station—installation of electric light; (7) 46, Dean-street, Aberdare—internal and external painting, repairs, &c.; (8) Dowlais Police Station—external painting and repairs; (9) Glyncorrwg Police Station—internal and external painting, repairs, &c.; (10) Gowerton Police Station—internal and external painting, repairs, &c.; (11) Llanharan Police Station—external painting, repairs, &c.; (12) Melincrythan Police Cottage—internal and external painting, repairs, &c.; (13) Mountain Ash Police Station—internal painting, repairs, &c.; (14) Ogmore Vale Police Station—internal painting, repairs, &c.; (15) Penrhiwceiber Police Station—installation of electric light; (16) Pontardulais Police Station—internal and external painting, repairs, &c.; (17) Pontycymmer Police Station—Internal and external painting, repairs, &c.; (18) Pontypridd Police Station and Court—external painting and repairs; (19) St. Nicholas Police Station and Court—internal and external painting, repairs, &c.; (20) Southerndown Police Cottage—external painting, repairs, &c.; (21) Treherbert Police Station — external painting, repairs, &c. (22) Ynyshir Police Cottage—internal and external painting, repairs, &c.; (23) Ystalyfera Police Station—internal and external painting, repairs, &c., for the Glamorgan C.C. Mr. T. Mansel Franklen, Clerk, Glamorgan County Hall, Cardiff.

SEPTEMBER 10.—**Romsey.**—ADDITIONS.—For additions and alterations at Romsey Nursing Home. Messrs. Footner & Son, solicitors, The Hundred, Romsey.

SEPTEMBER 12.—**Bristol.**—VARIOUS WORKS.—(a) Sanitary block in connection with Wards 110, 100, and 98, at the Eastville Institution; (b) sanitary works and baths; (c) plastering three wards and two staircases, &c.; (d) conversion of buildings 81, 82, and 83, with quarters for six couples. Messrs. W. S. Skinner & Sons, architects, Orchard-street, Bristol.

SEPTEMBER 12.—**Edmonton.**—PAINTING AND REPAIRS.—External painting and repairs of (a) the Guardians' Workhouse, known as Edmonton House, and (b) Chase Farm Schools, Enfield, for the B.G. Mr. J. C. S. Mummery, Guardians' Architect, 34, Bloomsbury-square, W.C. 1.

SEPTEMBER 12.—**Kelso.**—BRIDGES.—Repairs of stone bridge across the Tweed at Kelso and of the stone bridge across the Teviot, one mile west of Kelso, for the Joint Committee of the Kelso T.C. and the Kelso District Committee of the Roxburghshire C.C. Messrs. Blyth & Blyth, engineers, 135, George-street, Edinburgh. Deposit £2 2s.

SEPTEMBER 12.—**Leeds.**—PUMP HOUSE, &C.—Erecting pump house, accumulator frame and sub-station, in connection with Hydraulic power station, Marshlane, Leeds, for the North-Eastern Railway Co. Mr. Arthur Pollard, Company's Architect, York.

SEPTEMBER 12.—**Newcastle-on-Tyne.**—CAR SHEDS.—Erection of electric car sheds at South Gosforth, Newcastle-on-Tyne, for the North-Eastern Railway Co. Mr. Arthur Pollard, architect, Irving House, Westgate-road, Newcastle-on-Tyne.

SEPTEMBER 12.—**Tynemouth.**—JETTIES.—Erection of three reinforced concrete jetties, about 51 ft. long by 62 ft. wide, upon the North Bank of the River Tyne, for the T.C. The Considere Construction Co., Ltd., 5, Victoria-street, London, S.W. 1; or Mr. John F. Smillie, Borough Surveyor, Tynemouth. Deposit £2 2s.

SEPTEMBER 14.—**Cardiff.**—CABIN.—Alterations and additions to the bridgemen's cabin in connection with the electrification of James-street swing bridge over the Glamorganshire Canal, for the T.C. M. E. J. Elford City Engineer, City Hall, Cardiff. Deposit £1 1s.

✱SEPTEMBER 16.—**Hampshire.**—ORDINARY WORKS AND REPAIRS.—Ordinary works and repairs to the buildings in the charge of the Commissioners of His Majesty's Office of Works at Portsmouth, Southsea and Gosport. Contracts Branch, H.M.O.W., London, S.W. 1.

SEPTEMBER 19.—**Nottingham.**—REPAIRS.—Minor repairs at the Children's Homes and Poor Law Offices in the following trades, viz.:—Joiner, bricklayer, and plumber. Mr. J. Allan Battersby, Clerk to the Board, Poor Law Offices, Shakespeare-street, Nottingham.

✱SEPTEMBER 28.—**Walthamstow, E.17.**—ALTERATIONS AND ADDITIONS.—Alterations and additions to the Public Slipper Baths, High-street, Walthamstow, for the U.D.C. Mr. J. Williams Dunford, architect, 8, Cleveland Park-avenue, Walthamstow. Deposit £2

✱OCTOBER 3.—**Ruislip-Northwood.**—PAINTING AND OTHER WORK.—Painting and other work necessary to put into complete repair, structural and otherwise, the Council Offices, Northwood. Mr. H. R. Metcalfe, Council Offices, Northwood. Deposit £1 1s.

NO DATE.—**Huddersfield.**—PAINTING.—Outside painting at two houses. Mr. E. A. Beaumont, 28, Queen-street, Huddersfield.

NO DATE.—**Leeds.**—ALTERATIONS.—For alterations of Burton House, Burton-avenue, Dewsbury-road, for the Leeds Education Committee. Architect's Section, Education Offices, Calverley-street, Leeds.

NO DATE.—**Pool.**—COTTAGES.—Erection of two cottages at Pool. Mr. P. T. Runton, architect, District Bank Chambers, Bradford.

NO DATE.—**Redcar.**—HUT.—For supplying and erecting an ex-Army hut, about 60 ft. by 20 ft., lined throughout, and with central folding partition. The Boy Scout Association, Station Chambers, Middlesbrough.

FURNITURE, MATERIALS, etc.

SEPTEMBER 3.—**Bognor.**—ROAD MATERIALS.—Supply of flints, gravel, cement, timber, smith's works, &c., for the U.D.C. Council Surveyor, High-street, Bognor.

SEPTEMBER 5.—**Wakefield.**—SURVEYORS', &C., MATERIALS.—For surveyors' materials, lead, tin, iron, &c., for W. Riding of Yorkshire Asylums' Board, for half-year ending March 31, 1922. Mr. H. Topham, Clerk, Asylums' Board Office, Wakefield.

SEPTEMBER 7.—**Johannesburg.**—STREET ORDERLY BINS.—Supply of 50 street orderly bins to the Municipal Council. Dept. of Overseas Trade, 35, Old Queen-street, S.W.

SEPTEMBER 7.—**Westminster.**—STORES.—Supply of stores to the C.C. Mr. John Hunt, Town Clerk, City Hall, W.C. 2.

SEPTEMBER 8.—**West Ham.**—MATERIALS.—Supply to the Board of Guardians of builders' and engineers' materials, oils, etc., for three months. Clerk, Union-road, Leytonstone.

SEPTEMBER 10.—**Morpeth.**—SUPPLIES.—Supply of timber, oils and paints, &c., for six months ending March 31, 1922, to the Visiting Committee of the Northumberland County Mental Hospital, Morpeth.

✱SEPTEMBER 12.—**Hampstead, N.W.**—WORKS, MATERIALS, OR SERVICES.—Works, materials, or services, for six months from October 1 next, viz.:—(1) Team work; (2) gravel, hoggin, and shingle; (3) lime, cement, and bricks; (4) pitch, tar, and creosote oil; (5) oils, electricity station. Mr. Arthur P. Johnson, Town Clerk, Town Hall, Haverstock-hill, N.W. 3.

SEPTEMBER 12.—**Marylebone.**—MATERIAL.—Material, fodder, ironmongery, chandlery, &c., for a period of six months commencing October 1, for the Metropolitan Borough of St. Marylebone. Mr. James Wilson, Town Clerk, Town Hall, Marylebone-road, N.W.1.

SEPTEMBER 12.—**York.**—STORES.—Supply of iron castings, brass castings, Portland cement, rope, twine, &c.; harness, general hardware, iron and steel hammers, files, bolts, nuts, rivets, and screws; building lime; oils and paints; drain pipes, pitch and creosote oil; plumber's stores; steam packings, belts, tubes, fittings, &c.; cartage, broken slag; limestone chippings; granite chippings; disinfectants; leather; grindery, &c., for three months ending December, 1921, for the York C.C. Mr. F. W. Spurr, City Engineer, Guildhall, York.

SEPTEMBER 17.—**London, E.**—REFUSE (REMOVAL).—Removal of refuse by barge or railway truck from the Dust Wharf, Devonshire-street Goods Depot, Great Eastern Railway, and for the removal of clinker, hardcore and excavated material at present disposed of at the Spitalfields (Great Eastern Railway) siding at Durward-street, at Pinchin-street, and at Gunthorpe-street, for the period from October 1, 1921, to March 31, 1922. Borough Engineer and Surveyor (Mr. B. J. Belsher), Municipal Offices, Metropolitan Borough of Stepney, 15, Great Alie-street, Whitechapel, E. 1. Deposit £1.

SEPTEMBER 19.—**Macclesfield.**—MATERIALS, &C.—Supply of paints, glass, electrical goods, ironmongery, &c., to Cheshire County Mental Hospital, Parkside, Macclesfield, for the Hospital Committee. Mr. W. G. F. Tingay, Clerk, Parkside.

SEPTEMBER 19.—**Marylebone, N.W.1.**—MATERIALS AND WORK.—Materials (building, &c.) and work for a period of six months commencing October 1, 1921, for the Metropolitan Borough of St. Marylebone. Mr. J. Paget Waddington, Borough Engineer and Surveyor, Town Hall, Marylebone-road, N.W.1.

★SEPTEMBER 26.—**London.**—PARK SEATS.—Supply and delivery to various parks, &c., of about 500 standard seats of British manufacture and constructed of the best quality pitch pine or English oak, for the L.C.C. Chief Officer, Parks Department, L.C.C., 19, Charing Cross-road, S.W.

NO DATE.—**Bungay.**—180 tons 1¼ Mountsorrel granite, 60 tons flints broken to 2 in. ring, and 40 tons red binding silt, for the U.D.C. Mr. Harry Earl, Surveyor, Bungay.

ENGINEERING, IRON AND STEEL

SEPTEMBER 3.—**Edinburgh.**—AMBULANCE.—Motor ambulance for the Edinburgh City Police. Chief Constable's Office, 1, Parliament-square, Edinburgh.

SEPTEMBER 3.—**Glasgow.**—PIPES.—For about 177 tons cast-iron pipes, 18 in. in internal dia., 12 ft. long, for the Water Department of the T.C. Mr. J. R. Sutherland, Engineer and Manager, Water Department, 45, John-street, Glasgow.

SEPTEMBER 3.—**Maoduff.**—SLIPWAY.—Construction of steel cradle, &c., for slipway. Mr. H. Henderson, engineer, 21, Bridge-street, Aberdeen. Deposit £2 2s.

SEPTEMBER 6.—**Edinburgh.**—POLES.—Supply of steel tramway poles, &c. Tramways Manager, 2, St. James'-square, Edinburgh.

SEPTEMBER 7.—**London.**—RAILWAY MATERIAL.—Supply of: (1) steel axles, (2) steel boiler tubes, (3) steel tyres, for the South Indian Railway Company. Mr. A. Muirhead, Managing Director, 91, Petty France, Westminster, S.W. 1.

SEPTEMBER 7.—**London.**—VARIOUS.—(1) Galvanised corrugated sheets; (2) metallic filament lamps; (3) steel flat-footed and double-headed rails; (4) steel material; (5) wrought iron; (6) pig iron, for the East Indian Railway Co. Mr. G. E. Lillie, Secretary, Nicholas-lane, London, E.C.4. Deposit £1 1s. per specification.

SEPTEMBER 7.—**Queensborough.**—WATERWORKS.—Supply and fixing of deep well pumps and construction of ferro-concrete storage reservoir, for the T.C. Mr. H. Small, Borough Surveyor, Queensborough. Deposit £2 2s.

SEPTEMBER 7.—**Ventnor.**—PIER WORKS.—Repairs to tie rods, &c., at the Royal Victoria Pier and Landing Stage, for the U.D.C. Mr. D. V. Howard, Surveyor, Town Hall, Ventnor, I.W.

SEPTEMBER 9.—**London.**—ELECTRIC LIGHTING AND ALTERATIONS.—Alterations and repairs to electric lighting, fire alarm and domestic bell installations at St. George's Home, Millman-street, Chelsea, for the Metropolitan Asylums Board. Mr. T. Cooper, Engineer-in-Chief, Offices of the Board, Embankment, E.C. Deposit £1.

SEPTEMBER 9.—**London.**—ENGINES.—Modern second-hand or one pair of high-pressure steam winding engines. Messrs. Howard Smith, Ltd., 33, Cornhill, London, E.C.

SEPTEMBER 9.—**London.**—RAILWAY MATERIAL.—Supply of: Class A—(1) rolled materials for the construction of wagons, (2) wheels and axles for wagons. Class B—(1) helical springs, (2) spring steel, (3) accumulator supplies, for the Bombay, Baroda, and Central India Railway Company. Mr. S. G. S. Young, Secretary, 91, Petty France, Westminster, S.W. 1. Specifications: Class A 20s. each and Class B 10s. each.

SEPTEMBER 9.—**London.**—Supply of (1) 13,170 steel 85lb. F.F. in lengths of 39 ft. 6 in.; 841 steel 85 lb. F.F. in lengths of 39ft.; 14,361 pairs of fish plates; (2) 58,900 steel fish bolts, for H.E.H. The Nizam's Guaranteed State Railways Co., Ltd. Mr. W. Carew Smyth, Managing Director, Winchester House, 50, Old Broad-street, E.C.2. Fee, 10s. per specification.

SEPTEMBER 9.—**South Africa.**—FILTER PLANT.—Supply and erection for the Rand Water Board of a complete installation of mechanical or other filters capable of filtering 5½ million gallons of water per 24 hours at the Vereeniging Main Pumping Station. Enquiry Room of the Department of Overseas Trade, 35, Old Queen-street, Westminster, S.W.1.

SEPTEMBER 13.—**Manchester.**—TRAMCAR TRUCKS, &C.—Supply of (*a*) motors, (*b*) controllers, and (*c*) trucks for tramcars. Mr. J. M. McElroy, General Manager, Corporation Tramways, 55, Piccadilly, Manchester.

SEPTEMBER 14.—**Cardiff.**—ELECTRIC WIRING.—For electric wiring installation at Glan Ely Hospital, Fairwater, near Cardiff, for the King Edward VII Welsh National Memorial Association. Secretary, Welsh National Memorial Association, Memorial Offices, Westgate-street, Cardiff. Deposit, £2 2s.

SEPTEMBER 17.—**Wallasey.**—IRON WORK.—Supply of 12 cast-iron compressors, with steel tie rods and plates, for the attachment of landing-stage moorings. Messrs. Wilton & Bell, engineers, Westminster-chambers, 1, Crosshall-street, Liverpool. Deposit £1 1s.

SEPTEMBER 21.—**Barnes.**—PUMPING PLANT.—Supply and erection of semi-Diesel engines, centrifugal pumps and shafting at Barn Elms, Barnes, for the Metropolitan Water Board. Mr. H. E. Stilgoe, Engineer, 173, Rosebery-avenue, E.C. Deposit £1 1s.

OCTOBER 15.—**Wallasey.**—LANDING STAGE.—Construction of new floating goods landing stage, approximately 320 ft. in length and 80 ft. in breadth, for the T.C. Messrs. Wilton & Bell, engineers, Westminster Chambers, 1, Crosshall-street, Liverpool. Deposit £5 5s.

OCTOBER 31.—**Australia.**—BRIDGE WORK.—Supply of metal work for lift bridge over the Murray River, for Department of Public Works, Sydney. Department of Overseas Trade, 35, Old Queen-street, S.W.

OCTOBER 31.—**Madras.**—C.I. PIPES, &c.—Supply and delivery of cast-iron pipes, special castings, sluice valves, &c., for Madras Corporation. Messrs. James Mansergh & Sons, agents, 5, Victoria-street, Westminster, S.W. 1. Deposit Rs. 500.

NOVEMBER 16.—**Littleton (Middlesex).**—PUMPS.—Supply and erection of pumping machinery at Littleton, Middlesex, for the Metropolitan Water Board. Mr. Henry E. Stilgoe, Chief Engineer. 173, Rosebery-avenue, E.C. 1. Deposit £3 3s.

ROAD, SANITARY, AND WATER WORKS.

SEPTEMBER 3.—**Northallerton.**—RESURFACING.—For resurfacing in tarred slag macadam two miles of Northallerton to Thirsk main road, for the North Riding of Yorkshire C.C. County Surveyor, County Hall, Northallerton.

SEPTEMBER 3.—**Wood Green.**—ROADS.—Construction of footpaths, &c., on the Council's Housing Estate in Durnsford-road and Bounds Green-road. Surveyor, Town Hall, Wood Green. Deposit £2 2s.

SEPTEMBER 6.—**Birmingham.**—WATER SUPPLY.—Providing and laying of 12,900 lineal yards of cast-iron water pipes, 1½ in. to 3 in., &c., for the T.C. Town Clerk's Office, Council House, Birmingham. Deposit £1 1s.

SEPTEMBER 7.—**Cheltenham.**—SEWER.—Construction of sewer at Prestbury, for the R.D.C. Mr. G. H. Phillott, architect, 31, Promenade, Cheltenham. Deposit £1 1s.

SEPTEMBER 7.—**Stockton.**—SEWERAGE WORKS.—Construction of sewerage works at Billingham, for the R.D.C. Mr. F. W. H. Stileman, engineer, Erimus Chambers, Queen's Square, Middlesbrough. Deposit £5 5s.

SEPTEMBER 7.—**Timperley.**—SEWER.—Construction of about 110 lineal yards of 9 in. pipe sewer and two manholes in Wood-lane, Timperley, for the Bucklow R.D.C. Mr. R. C. Aldous, Engineer and Surveyor, Station-buildings, Stamford New-road, Altrincham. Deposit £1 1s.

SEPTEMBER 7.—**Whitchurch.**—STREETS.—Street improvement works in Bishop's-road (part of), Whitchurch, for the Llandaff and Dinas Powis R.D.C. Mr. William Farrow, Surveyor, Park House, 20, Park-place, Cardiff.

SEPTEMBER 8.—**London.**—DRAINAGE.—Drainage and sanitary work at Broadmoor Asylum, for H.M. Commissioners of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W. 1. Deposit £1 1s.

SEPTEMBER 8.—**Southend-on-Sea.**—ROADS.—Making up of various roads, for the T.C. Mr. R. H. Dyer, Borough Engineer, Southend-on-Sea. Deposit £2.

SEPTEMBER 9.—**Loanhead.**—SEWAGE WORKS.—Reconstruction of the sewage purification works in Haveral Wood, for Loanhead T.C. Mr. G. Somervel Carfrae, engineer, 1, Erskine-place, Edinburgh. Deposit £1.

SEPTEMBER 13.—**Bradford.**—DRAINAGE.—Drainage work at Carlton-street School, for T.C. City Architect, Town Hall, Bradford.

SEPTEMBER 13.—**Coventry.**—STREET CONSTRUCTION.—For works and materials for construction of streets and laying of sewers in Stoke Heath housing scheme, for the Housing Committee of the Coventry Corporation. Mr. J. E. Swindlehurst, City Engineer, Council House, Coventry. Deposit, £3 3s.

SEPTEMBER 14.—**Ripon.**—SLAG.—Supply of slag, 2½ in., 1¼ in., and ¾ in. and fine, to Sinderby, Baldersby, Melmerby, Ripon, Boroughbridge and Brafferton, for the Wath R.D.C. Mr. F. Stockton Gowland, Clerk, Union Offices, Ripon.

SEPTEMBER 17.—**Stafford.**—MATERIALS.—For six months' supply of ironmongery, tools, &c.; timber; castings; stoneware pipes, &c.; cement and limes; bricks, &c.; road stone; ironstone furnace slag, &c. Mr. W. Plant, Borough Engineer, Borough Hall, Stafford.

SEPTEMBER 19.—**Farnham.**—SEWERS.—Construction of sewers, &c., for the U.D.C. Surveyor, Council Offices, South-street, Farnham. Deposit £2 2s.

NOVEMBER 17.—**Uruguay.**—WATER AND DRAINAGE WORKS.—Construction of water and drainage works at San Jose. Department of Overseas Trade, 35, Old Queen-street, S.W

Competitions.

(See Competition News, page 278.)

Auction Sales, Tenders, etc.

SEPTEMBER 5.—**Bramley, Hants.**—Messrs. Simmons & Sons will sell, by direction of the Disposal Board, at Bramley Stores, Bramley, Hants, adjoining Bramley Station, G.W.R. (4 miles from Basingstoke, 12 from Reading), materials, stores, &c. Auctioneers, 39, Belgrave-street, Reading, and Henley-on-Thames and Basingstoke.

★SEPTEMBER 6.—**Gloucestershire.**—Messrs. Henry Butcher & Co. have received instructions from Messrs. Rownson, Drew & Clydesdale, Ltd., to sell at C.S.D. 237 Aero Repair Depot, Yate, Bristol, new and partly-used stores. Auctioneers, 63-64, Chancery-lane, London, W.C. 2.

★SEPTEMBER 7.—**London, S.W.**—Messrs. Veryard & Yates will sell, at 255, Clapham-road, S.W., stock of new and second-hand timber and building materials. Auctioneers, 365, Norwood-road, S.E. 27.

SEPTEMBER 15.—**Ascot.**—Messrs. Knight, Frank & Rutley will sell at The Royal Ascot Hotel, Ascot, Freehold Building Land and Small Properties, being the remaining portion of the Englemere Hill Estate, comprising about 18 acres. Auctioneers, 20, Hanover-square, London, W. 1

★SEPTEMBER 21.—**Swingate (Kent).**—Messrs. Worsfold & Hayward will sell (by the direction of the Disposal Board), at Swingate Downs Aerodrome (abutting on the Old St. Margaret's-road), huts, work shops, sheds, hangers, and numerous buildings in the aerodrome. Auctioneers, Market-square, Dover.

★SEPTEMBER 28 (and following days).—**Helmdon (near Brackley).**—Messrs. Joseph Hibbard & Sons will sell, by order of the Controller, Timber Supply Department, at Helmdon Wood Mill (adjoining Helmdon Station, G.C.R., and 3½ miles from Brackley) saw mill, plant and timber stock, stores, &c. Auctioneers, 15, Newington-green, Islington, London, N. 16.

SEPTEMBER 27.—**London, E.C.**—Mr. Frederick Brown Gurney, of the firm of Messrs. Rutley, Vine & Gurney, the person appointed by Mr. Justice Peterson, will sell, at the London Auction Mart, the estate of Charles Townley (deceased), situate Orwell, Cambs. Auctioneers, 6, George-street, Euston-road, London, N.W.1.

Public Appointments.

★SEPTEMBER 7.—**Essex.**—Chief Assistant, Town Planning Section, required in the office of the Borough Engineer and Surveyor, by the County Borough Council. Mr. Robt. H. Dyer, Borough Engineer and Surveyor Southend-on-Sea.

★SEPTEMBER 12.—**Edmonton, N.**—CLERK OF WORKS.—Two Clerks of Works required by the Edmonton Union to supervise external painting at (*a*) Edmonton House, 77, Bridport-road, N. 18; (*b*) Chase Farm Schools, The Ridgeway, Enfield. Mr. E. Ridley, Clerk to the Guardians, 77, Bridport-road, Edmonton.

PATENTS.

APPLICATIONS PUBLISHED *

166,424.—A. S. Horton: Mode of erecting concrete and similar walls and means for use therewith.

146,252.—Adams Pond Co.: Concrete floor or slab construction.

166,443.—W. I. Travers: Domestic fireplaces.

166,456.—G. Anderson and Leyland and Birmingham Rubber Co., Ltd.: Paving block.

166,457.—D. M. Newton: Method of and apparatus for forming concrete piling.

105,235.—Ransome Concrete Machinery Co. (Inc.): Concrete mixers.

166,623.—W. Christmas: Concrete blocks.

166,630.—B. Bradley: Reinforced concrete pipes.

166,633.—W. H. Smith: Manufacture of concrete block sand briquettes.

166,665.—Sir H. Austin: Wooden edifices.

166,666.—Sir H. Austin: Doors.

166,674.—R. Meschberg: Collapsible tables.

166,685.—F. Milborne: Sideboards.

166,706.—W. F. Scott: Reinforced concrete construction.

166,741.—D. C. Patterson: Centering for concrete wall construction.

166,748.—T. Chambers: Machines for straightening metal beams, joists and girders.

166,753.—J. F. Hunt and L. V. Caesar: System of wall construction and building blocks.

166,771.—W. Remmert: Castors.

*All these applications are now in the stage in which opposition to the grant of Patents upon them may be made.

Annual Outing.

The annual outing of the staff and employees of Messrs. W. G. Tarrant, Ltd., builders and contractors, of Byfleet, took place last Saturday week, when some 800 travelled by special train to Brighton, where breakfast was served. In responding to the toast of "The Firm" (proposed by Mr. Kenneth Wood, A.R.I.B.A.), Mr. W. G. Tarrant outlined the history of the firm from its inception 21 years ago. Referring to the present position in the building industry, he said the Government had acted very unwisely in taking over the work of the speculative builder, about which it knew nothing. The Government had been prepared to lose money on the provision of houses for the working classes, and it was very unfair competition. Now the schemes were to be dropped, but something would have to be done to supply the demand for housing accommodation. Houses that would be attractive to the occupiers had to be built at a cost that would be within the reach of all, and the Government, the builders, and the operatives should pull together with that end in view.

Opportunity was taken of the occasion to make a presentation on behalf of the staff and employees to Mr. and Mrs. Tarrant in celebration of their silver wedding. The gifts, which took the form of a silver salver and a barometer, were presented by Mr. J. D. Pook.

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. Since our last issue various revisions have been made.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.

	£ s. d.
Best Stocks	5 1 6

Per 1000, Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons	3 17 0	Best Blue Pressed Staffordshire	11 19 0
Best Stourbridge Fire bricks	12 14 0	Do. Bullnose	12 9 0
		Blue Wire Cuts	10 1 6
GLAZED BRICKS—			
Best White, Ivory, and Salt Glazed Stretchers	28 10 0	D'ble Str'tch'rs	37 0 0
		D'ble Headers	34 0 0
		One Side and two Ends	38 0 0
Headers	28 0 0	Two Sides and one End	39 0 0
Quoins, Bullnose and 4½in. Flats	35 0 0	Splays and Squints	36 10 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

	s. d.	
Thames Ballast	16 6	per yard, delivered 2 miles radius Paddington.
Pit Sand	21 0	
Thames Sand	21 6	
Best Washed Sand	21 6	
½in. Shingle for Ferro-Concrete	21 0	
¼in. ,, ,,	22 0	

Per ton, delivered in London area.

	£ s. d.		£ s. d.
Best Portland Cement	4 7 6		4 13 0

80/6 alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above	10 0
Best Ground Blue Lias Lime	3 12 6 at rly. depot.

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks. The sacks are charged at 2s. 6d. each and credited at 2s. each if returned in good condition within three months.

Grey Stone Lime ..... 74s. 0d. per ton delivered.
Stourbridge Fireclay in s'cks 44s. 8d. per ton at rly. dpt.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R.. per ft. cube	3 2½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R.. per ft. cube	3 5½
Do. do. delivered on road wagons at Nine Elms Depot	3 6½
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L.& S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 11½
Do. do. delivered on road wagons at above stations, per ft. cube	5 0½
White basebed, 3d. per ft. cube extra.	

NOTE.—½d. ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.

YORK STONE, BLUE—*Robin Hood Quality*.

	s. d.
Delivered at any Goods Station London.	
Scappled random blocks ..... Per Ft. Cube	14 5
6 in. sawn two sides landings to sizes (under 30 ft. super.) ..... Per Ft. Super	9 0
6 in. rubbed two sides, ditto ..... ,,	10 1
3 in. sawn two sides slabs (random sizes) ,,	3 11
2 in. to 2½ in. sawn one side slabs (random sizes) ..... ,,	2 5
1½ in. to 2 in. ditto, ditto ..... ,,	2 0
HARD YORK—	
Delivered at any Goods Station London.	
Scappled random blocks ..... Per Ft. Cube	9 3
6 in. sawn two sides landing to sizes (under 40ft. super.) ..... Per Ft. Super	8 6
6 in. rubbed two sides ditto ..... ,,	10 4
4 in. sawn two sides slabs (random sizes) ,,	4 11
3 in. ditto, ditto ,,	4 0
2 in. self-faced random flags .. Per Yard Super	12 2

WOOD.

GOOD BUILDING DEAL.

Inches	£ s.	
4 × 11	50 0	per standard
4 × 9	45 0	
4 × 8	40 0	
4 × 7	35 0	,,
3 × 8	32 0	,,
3 × 7	30 0	,,
2½ × 7	30 0	,,
3 × 6	28 0	,,
3 × 11	50 0	,,
2 × 11	50 0	,,
3 × 9	42 0	,,
2½ × 9	44 0	,,
3 × 4½	32 0	,,
3 × 4	30 0	,,

PLANED BOARDS.

1 × 11	60 0	,,
1 × 9	50 0	,,

PLAIN EDGE FLOORING.

Inches		
⅞	22/6	per square
1	26/6	,,
1¼	29/6	,,
1½	35/-	,,
1¾	45/-	,,

TONGUED AND GROOVED FLOORING.

Inches		
1	29/6	per square
1¼	35/-	,,
1½	45/-	,,

WOOD (*Continued*).

MATCHINGS (BEST).

Inches		
¾	21/-	per square
¾	23/-	,,
1	30/-	,,

BATTENS.

Inches	s. d.	
¾ × 2	3 6	per 100 ft.

SAWN LATHS.

Per bundle					0	4 0
Dry Wainscot Oak, per ft. super, as inch	0	2	6	to	0	3 0
¼ in. do. do.	0	1	10½	to	0	2 6
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0	2	3	to	0	3 0
Cuba Mahogany	0	3	6	to	0	4 0
Teak (Rangoon, Moulmein or Java), per load	52	10	0	to	55	0 0
American Whitewood planks, per ft. cube	0	16	0	to	0	18 0
Best Scotch Glue, per cwt.	10	0	0	to	—	
Liquid Glue, per cwt.	5	8	0	to	6	15 0

SLATES.

1st quality slates from Bangor or Portmadoc in truck load delivered London area. Per 1,000 of 1,200.

	£ s. d.
Best Blue Bangor Slates, 24 by 12	56 10 0
,, ,, ,, 22 by 12	46 0 0
First quality ,, 22 by 11	42 10 0
,, ,, 20 by 12	42 0 0
Best Blue Portmadoc 20 by 10	36 10 0
,, ,, 18 by 10	29 10 0
First quality ,, 18 by 9	24 5 0
,, ,, 16 by 10	22 15 0
,, ,, 16 by 8	18 0 0

TILES.

Per 1,000 f.o.r. London.

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district	7 15 0
Ditto hand-made ditto	8 10 0
Ornamental ditto	7 7 6
Hip and valley tiles (per dozen)	0 15 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—

	£ s. d.
R. S. Joists, cut and fitted	22 0 0
Plain Compound Girders	25 0 0
,, Stanchions	27 0 0
In Roof Work	32 0 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £15 net value delivered direct from works. 5 per cent. less above gross discounts, carriage forward if sent from London stocks.)

	Tubes. ½" to 2".	Tubes. 2½" to 6".	Fittings. ½" to 2".	Fittings. 2½" to 6".
Gas	—25	—30	—30	—37½
Water	—15	—21½	—25	—35
Steam	— 3½	—11½	—20	—32½
Galv'd Gas	— 5	—10	—22½	—30
,, Water	+ 7½	+ 1½	—17½	—27½
,, Steam	+20	+12½	—12½	—25

L.C.C. COATED SOIL PIPES—London Prices ex works.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6 fts.	5 10½	4 2	5 0
2½ in. ,,	7 0½	4 7	6 3
3 in. ,,	8 4½	5 0	7 6
3½ in. ,,	9 3	6 3	8 9
4 in. ,,	10 7	7 1	10 0

RAIN-WATER PIPES, &c.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6fts. plain	5 2	2 6	3 5
2½ in. ,, ,,	5 9	3 0	4 2
3 in. ,, ,,	6 8	3 8	5 6
3½ in. ,, ,,	7 9	4 4	6 5
4 in. ,, ,,	8 10	5 4	7 0

L.C.C. DRAIN PIPES.—9 ft. lengths. London Prices. per yd.: 4 in., 10/3. .. 5 in., 12/3. .. 6 in., 14/9.

	Per ton in London. £ s. d.		£ s. d.
IRON—			
Common Bars	19 0 0	to	20 0 0
Staffordshire Crown Bars—good merchant quality	20 0 0	..	21 0 0
Staffordshire "Marked Bars"	26 0 0	..	27 0 0
Mild Steel Bars	17 10 0	..	18 10 0
Steel Bars. Ferro-Concrete quality, basis price	17 10 0	..	18 10 0
Hoop Iron, basis price	29 0 0	..	30 0 0
,, Galvanised	43 0 0	..	45 0 0
Soft Steel Sheets, Black—Ordinary sizes to 20 g.	25 0 0	..	27 0 0
,, ,, ,, 24 g.	26 0 0	..	28 0 0
,, ,, ,, 26 g.	28 0 0	..	29 0 0
Sheets Flat Best Soft Steel, C.R. & C.A. quality—Ordinary sizes, 6ft. by 2ft. to 3ft. to 20 g.	33 0 0	..	34 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 22 g. and 24 g.	34 0 0	..	36 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 26 g.	36 0 0	..	38 0 0
Flat and Galvanised Corrugated Sheets—Ordinary sizes, 6 ft. to 9ft. 20 g.	27 0 0	..	28 0 0
Ordinary sizes, 6ft. to 9ft. 22 g. and 24 g.	28 0 0	..	29 0 0
Ordinary sizes 6ft. to 9ft. 26 g.	30 0 0	..	32 0 0

METALS (*Continued*).

	Per ton in London. £ s. d.		£ s. d.
Sheets Galvanised Flat, Best quality—Best Soft Steel Sheets, 6ft. by 2ft. to 3ft. to 20g. and thicker	33 0 0	..	34 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	34 0 0	..	35 0 0
Best Soft Steel Sheets, 26 g.	36 0 0	..	37 0 0
Cut Nails, 3in. to 6in.	32 0 0	..	33 0 0

(under 3in. usual trade extras.)

METAL WINDOWS—Standard sizes suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 3s. per foot super.

LEAD, &c.

Delivered in London.

	£ s. d.		£ s. d.
LEAD—Sheet, English, 4 lb. and up	36 10 0	..	—
Pipe in coils	37 0 0	..	—
Soil Pipe	39 10 0	..	—
Compo pipe	40 10 0	..	—

NOTE—Country delivery, 30s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills ..... per ton	20	0	0	.. —
Do., ex country, carriage forward ..... per ton	21	0	0	.. —

	£ s. d.		£ s. d.
COPPER—			
Strong Sheet ..... per lb.	0 2 3	..	—
Thin ,, ... ,,	0 2 4	..	—
Copper nails ..... ,,	0 2 3	..	—
Copper wire ..... ,,	0 2 4	..	—
TIN—English Ingots ,,	0 1 10	..	—
SOLDER—Plumbers' ,,	0 0 11	..	—
Tinmen's ,,	0 1 2	..	—
Blowpipe ,,	0 1 4	..	—

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

	Per Ft.		Per Ft.
15 oz. fourths	4½d.	32 oz. fourths	10½d
,, thirds	5½d.	,, thirds	1/-
21 ,, fourths	6½d.	Fluted, Obscured and Enamelled Sheet.	
,, thirds	7½d.	15 oz.	7d
26 ,, fourths	8d.	21 ,,	9d.
,, thirds	9½d.		

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
⅛ Rolled plate	5½d.
⅛ Rough rolled	6½d.
¼ Rough rolled	7½d.
Figured Rolled, Oxford Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish white	7½d.
Ditto, tinted	9½d.
Rolled Sheet	6½d.
White Rolled Cathedral	6½d.
Tinted do.	7½d.

Cast Plate is ½d. extra on the price of rough rolled.

PAINTS, &c.

	£ s. d.	
Raw Linseed Oil in pipes ..... per gallon	0 3 9	
,, ,, ,, in barrels .... ,,	0 3 10	
,, ,, ,, in drums .... ,,	0 3 11	
Boiled ,, ,, in barrels .... ,,	0 4 3	
,, ,, in drums .... ,,	0 4 4	
Turpentine in barrels ..... ,,	0 5 9	
,, in drums (10 gall.) .. ,,	0 6 0	
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)	59 15 0	
GENUINE WHITE LEAD PAINT—"Father Thames," "Nine Elms," "Park," "Supremus" and other best brands (in 14 lb. tins) not less than 5 cwt. lots ..... per ton delivered	82 15 0	
Red Lead, Dry (packages extra) .. per ton	41 0 0	
Best Linseed Oil Putty ..... per cwt.	0 17 6	
Filocol ..... per cwt.	0 15 6	
Size. XD Quality ..... fkn.	0 5 9	

VARNISHES, &c.

	Per gallon. £ s. d.
Oak Varnish ..... Outside	0 15 0
Fine ditto ..... ditto	0 17 2
Fine Copal ..... ditto	1 1 6
Pale Copal ..... ditto	1 2 6
Pale Copal Carriage ..... ditto	1 4 6
Best ditto ..... ditto	1 14 6
Floor Varnish ..... Inside	0 19 0
Fine Pale Paper ..... ditto	0 18 6
Fine Copal Cabinet ..... ditto	1 2 6
Fine Copal flatting ..... ditto	1 0 6
Hard drying Oak ..... ditto	0 18 0
Fine Hard drying Oak ..... ditto	0 19 0
Fine Copal Varnish ..... ditto	1 0 6
Pale ditto ..... ditto	1 2 6
Best ditto ..... ditto	1 14 6
Best Japan Gold Size	0 12 6
Best Black Japan	0 18 0
Oak and Mahogany Stain (water)	0 17 6
Brunswick Black	0 11 9
Berlin Black	0 16 6
Knotting (patent)	1 16 0
French and Brush Polish	1 8 0
Liquid Dryers in Terebine	0 13 6
Culrass Black Enamel	0 7 0

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

CURRENT PRICES FOR BUILDING WORK IN LONDON.*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	18	0
Add if in clay	„ „	1	10
Add for every additional depth of 6 ft.	„ „	1	4
Planking and strutting to trenches	per foot super	0	7
Do. to sides of excavation, including shoring	„ „	1	4

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6 ..	per yard cube	50	0
Add if in underpinning in short lengths	„ „	9	6
Add if in floors 6 in. thick	„ „	3	10
Add if in beams	„ „	4	9
Add if aggregate 1 : 2: 4	„ „	14	3
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	„ „	4	3

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	47	10	0
Add if in stocks	„	11	17	6
Add if in Staffordshire blues	„	32	15	6
Add if in Portland cement and sand	„	4	10	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

		s.	d.
Neat flat strucks or weathered joint.....	„ „	0	0	3

ARCHES.

		s.	d.
Extra only to the price of ordinary brickwork :—			
Fair external in half brick rings	„ „	0	0	11½
Axed in stocks	„ „	0	1	11
Rubbed and gauged jointed in putty camber or segmental	„ „	0	6	8

SUNDRIES.

		s.	d.
Damp course in double course of slates breaking joint and bedded in Portland cement	„ „	0	1	6
Setting ordinary register grates and stoves	each	1	2	6
Setting kitchener, including forming flues, &c., with all necessary fire bricks	„	6	5	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	8	0
Three-quarter-inch vertical damp course	„ „	14	3
One inch on flats in two thicknesses.....	„ „	12	0
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	„ „	1	6

MASON.

		s.	d.
York stone templates fixed	per foot cube	19	9
York stone sills fixed	„ „	31	6
Bath stone and all labour fixed	„ „	15	0
Portland stone fixed	„ „	23	0

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap, including nails....	per square	98	0
Do. 20 in. × 10 in. Do. Do.	„	115	0
Do. 24 in. × 12 in. Do. Do.	„	117	6

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates .....per foot cube		7	0
Do. joists	„ „	8	0
Do. roofs, floors and partitions	„ „	9	3
Do. trusses	„ „	11	9

		¾″	1″	1¼″	2″
Deal rough close boarding	per sq.	42/–	48/–	56/–	85/–

		s.	d.
Flat centering for concrete floor, including struts or hangers .. „		63	0
Do. to beams .....per ft. sup.....		1	6
Centres for arches ..... „		2	0
Gutter boards and beams..... „		1	8

FLOORING.		¾″	1″	1¼″	1½″
Deal-edges shot	per sq.		54/–	64/–	74/–
Do. tongued and grooved	„		60/–	72/–	80/–
Do. matchings	„	45/–	55/–		
Moulded skirting, including backings and grounds .....per ft. sup.		2/–	2/3	2/9	3/3

SASHES AND FRAMES.		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	11
Two Do. Do. Do.	„ „	2	4½
Add for fitting and fixing	„ „	0	6
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights ; average size.....	„ „	4	11

DOORS.		1½″	1¾″	2″
Two-panel square framed .....per ft. sup.		2/6	2/9	2/11
Four-panel Do.	„	2/10	3/2	3/5
Two-panel moulded both sides	„	3/2	3/5	3/8
Four-panel Do. Do.	„	3/6	3/9	4/–

CARPENTER AND JOINER—continued.

FRAMES.		s.	d.
Deal wrot moulded and rebated	per foot cube	19	0

		1″	1¼″	1½″
Plain deal jamb linings framed	per ft. sup.	2/1	2/3	2/6
Deal shelves and bearers	„	1/10	2/–	2/1
Add if cross tongued	„	2d.	2d.	2d.

STAIRCASES.	1″	1¼″	1½″	2″	2½″
Deal treads and risers in and including rough brackets	3/2	3/10	4/5	—	—
Deal strings wrot in both sides and framed	4/3	4/6	—	—	—

		s.	d.
Housings for steps and risers	each	0	11½
Deal balusters, 1 in. × 1¼ in.	per ft. run.	0	9
Mahogany handrail ; average 3 in. × 3 in.	„ „	6	0
Add if ramped	„ „	11	10
Add if wreathed	„ „	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/4½
Sash fasteners .....11½d.		Mortice locks	5/3
Casement fasteners	1/5	Patent spring hinges and letting in to floor and making good	19/-
Casement stays.....	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	25	0
Plain compound girders	„	28	0
Do. stanchions	„	31	0
In roof work	„	36	0

RAIN-WATER GOODS.

		3″	4″	5″	6″
Half-round plain rebated joints ..	ft. run	1/11	2/4½	3/7	4/–
Ogee Do. Do. ..	„	2/4½	3/1	3/10	4/9
Rain-water pipes with ears	„	2/9	3/7		
Extra for shoes and bends	each	4/4	5/11		
Do. stopped ends	„	1/11	2/4½	3/7	4/–
Do. nozzles for inlets	„	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	58	0
Do. Do. in flats	„	54	0
Extra labour and solder in coated cesspools	each	7	4
Welt joint	per ft. run.	0	6
Soldered seam	„ „	1	10½
Copper nailing	„ „	0	7

		½″	¾″	1″	1½″	2″	4″
Drawn lead waste	per ft. run	11d.	1/7	1/10	3/3	4/–	
Do. service	„	1/6	2/–	2/4	3/8		
Do. soil	„						6/6
Bends in lead pipe	each					3/5	8/7
Soldered stop ends	„	1/3	1/9	2/2	3/–	3/8	
Red lead joints	„	11d.	1/–	1/4	2/–	2/6	5/1
Wiped soldered joints	„	3/–	3/8	4/3	5/2	6/10	10/3
Lead traps and cleaning screws .....„					15/4	20/6	
Bib cocks and joints ..„		7/1	10/8	17/1	45/6		
Stop cocks and joints	„	17/1	19/–	28/6	71/3		

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	3	2
Do. Do. Sirapite	„ „	3	7
Do. Do. Keen's	„ „	4	9
Add sawn lathing	„ „	1	11
Add metal lathing	„ „	3	4
Portland cement screed	„ „	2	9
Do. plain face	„ „	4	6
Mouldings in plaster	per 1 girth	0	3
One-and-a-half granolithic pavings	per yard sup.	6	7

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	1	4
26 oz. Do.	„ „	1	7
Obscured sheet	„ „	1	9
⅛ in. rolled plate	„ „	1	0
¼ in. rough rolled or cast plate	„ „	1	1
¼ in. wired cast plate	„ „	1	7

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	1	5
Knotting and priming	„ „		11
Plain painting 1 coat	„ „	1	5
Do. 2 coats	„ „	2	3
Do. 3 coats	„ „	3	0
Do. 4 coats	„ „	3	10
Graining	„ „	2	10
Varnishing twice	„ „	2	4
Sizing	„ „	0	4
Flatting	„ „	0	9
Enamel	„ „	1	11
Wax polishing	per foot sup.	0	10½
French polishing	„ „	1	8
Preparing for and hanging paper	per piece	2/– to	5/–

* These prices apply to new buildings only. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

PROPOSED NEW BUILDINGS AND OTHER WORKS.*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council

BLYTH.—Plans passed by the U.D.C.: Bungalow in Plessey-road, for Mr. H. Watson; alterations to premises in Croft-road, for a club for the United Service Club; out-offices at 24, Marine-terrace for Mr. Horn; additions to premises in Croft-road; bathroom at 18, Middleton-street.

BURY-ST.-EDMUNDS.—Premises are to be purchased by the West Suffolk Education Committee and adapted for use as a temporary secondary school building.

CHEADLE.—Plans passed by U.D.C: House, Mr. G. E. Cartledge; alterations to house, Mr. Brassington; cowshed, Mr. J. Vickers; and house, Mr. J. Nicklin; also passed: Alternative plans for improvements at Ipstones C.E.—A new sewage disposal scheme is proposed and the Surveyor is to prepare plans.

GLASGOW.—Plans approved by Special Committee of T.C.: Eight houses, John Caldwell; a bungalow Dr. Cavan; a house at Victoria Park, and another at Glasgow Green. Parks Department of T.C.

GLOUCESTER.—Two bungalow villages are to be erected between Gloucester and Painswick. Plans may be seen at the office of Mr. W. J. Chambers of Gloucester.

GRAVESEND.—Plans are to be prepared for additional lavatories, offices and workshops at the T.C.'s electricity works. Plans have been approved by the T.C. as follows:—Mr. W. E. Thomas, eight houses in Grange-road; Mr. Faunch (Mr. Peacock), one house in Singlewell-road; S. and S. Memorial, five houses in Cross-lane; Mr. P. White, one house in Singlewell-road; Mr. C. W. Terry, one house in the Avenue; Mrs. Peters, one house in Essex-road; Mr. Pettman, two houses in Singlewell-road; and Mr. Morris, one house in Essex-road.

HAYWARD'S HEATH.—Managers of St. Wilfrid's Church Schools are being pressed by the Board of Education to install new heating apparatus; estimated cost £1,200.

HOVE.—Plans passed by the T.C.: Conversion into flats of 30, First-avenue, by Mr. T. H. Buckwell, for Mrs. Toomer; conversion into flats of 32, Cromwell-road, by W. Willett, Ltd., for Mr. W. R. Hewson; five houses, Gladys-road, by Mr. J. M. Coomber, for Mr. J. Coomber; two pairs of houses, Raphael-road, for Mr. C. J. Payne; two bungalows, Langdale-road, for C. H. Burstow & Sons; a garage, Wilbury-crescent, S.W., by Mr. W. H. Overton, for Mr. S. Elliott; alterations at 48, 49, 50 and 51, Western-road, by T. Garrett & Son, for W. Hill, Ltd.; addition to 1, Waterloo-street, by J. H. Hackman, Ltd., for Mr. Fairburn; alterations at 4, Queen's-gardens, by Mr. H. Elwig, for the Princess Hotel Co., Ltd.; a garage, Hallyburton-road, by Mr. E. Gladman, for Mr. H. Russell; a garage, Richardson-road, by Mr. W. H. Overton, for Mr. Maurice; and the conversion into flats of 14, Brunswick-terrace, by Mr. A. Carden, for Mr. N. Foley.

HUCKNALL.—On August 17 an inquiry was held by the Ministry of Health's Inspector (Mr. R. C. Cox) into the application by the Hucknall Urban District Council to borrow £30,000 for the construction of a 10 in. rising main and a large storage reservoir. Messrs. W. H. Radford & Son, of Nottingham, are the engineers, and explained the scheme. At the inquiry some opposition was met with in connection with the site for the new reservoir.

LLANDOVERY.—A legacy to the T.C. provides for the erection, at a cost of £2,500, of a cottage hospital. An additional £500 is to be spent on the equipment of the building.

MATLOCK.—Approval has been given to the plans submitted by the U.D.C. for the erection of seven houses.

METHIL.—The congregation of the Parish Church has acquired additional land on which to erect a new manse and church hall, to adjoin the proposed new church.

METHYR.—Plans passed by the Public Works Plans Committee: Bathroom and lavatory at the rear of 43, Aberfan-road, Aberfan, for Mr. E. Rees; corded store on the site of the Merthyr Rectory, for D. Morgan & Co., the work to include the setting back of the boundary wall at Albert-street and Swan-street; motor garage at Rookwood, Merthyr, for Mr. D. W. Jones; new theatre on the site of the Castle Hotel.

ORSETT.—The Ministry of Health has approved lay-out and estimates for 24 houses at West Thurrock in connection with Orsett Council's housing scheme.

RUISLIP.—The Air Ministry is pressing on the Uxbridge R.D.C. the urgent necessity for providing housing accommodation for the civilian employees at the R.A.F. Depots at Ruislip and Uxbridge.

SCARBOROUGH.—Plans passed by the T.C.: Mr. Arthur Briggs, alterations and additions to No. 53, Aberdeen-walk; Mr. T. W. Whipp, architect, on behalf of the Scarborough South Cliff Cinema, Ltd., cinema in Ramshill-road; Mr. G. E. Withers, architect, on behalf of the Queen-street Chapel Trustees, for alterations and additions to the Central Hall. A scheme for the improvement of the Athletic Ground, including the provision of a new grand stand, lawn-tennis courts, bowling greens, &c., is being considered by the Corporation. The cost is estimated at £8,000.

SHEFFIELD.—Plans passed by the T.C.: House, Trap-lane, for Mr. E. Day; house, Clarendon-road, for Mr. A. W. Morrison; house and garage, Whirlowdale-road, for Mr. T. H. Robinson; house, Cobnar-road, for Mr. H. J. Taylor; house, Cobnar-road, for Mr. H. C. Smeeton; six houses and two bungalows, Armthorpe-road, for Mr. James Samuel.

SLOUGH.—Plans passed by the U.D.C.: Bungalows in Langley-road for Mr. Webbe and Mr. H. H. Phillips; two houses on the Bath-road, for the surveyor; and a shop and house near the Uxbridge-road for Mr. Barnes.

STOCKTON.—The R.D.C. has a £40,000 drainage scheme before the Ministry of Health. The proposals include street widening and the improvement of a railway bridge.

TADCASTER.—Plans have been passed by the R.D.C. for the erection of a wooden shop building at Allerton Bywater, and for the conversion of premises at Sherborne Aerodrome into a bungalow. Plans are to be prepared by Messrs Balfour & Sons for additional sewers at Micklefield.

THOMER.—Plans have been prepared by Mr. F. Mitchell, architect and surveyor, Leeds, for a Victory Hall. The funds have nearly been subscribed and building is to commence in the spring.

WAKEFIELD.—Plans passed by the T.C.: Chadwick Watson & Co., conversion of the Empire Theatre in Kirkgate into a cinema for the New Century Pictures, Ltd.; Mr. C. Medley, alterations and additions to offices in Westgate and Silver-street for the Yorkshire Penny Bank, Ltd.; John Smith's Tadcaster Brewery Co., Ltd., alterations and additions to the Savile Hotel, Savile-street; Mr. J. H. Pitt, alterations to the "Great Bull" Hotel premises, Westgate, for the Prudential Assurance Co., Ltd.; Mr. W. H. Ogden, alterations to shop premises in the Springs for Mr. J. Lovell; house, Blenheim-road, for Mr. P. Simpson.

FIRES.

BRAINTREE.—A garage belonging to Mr. J. B Young at Braintree has been destroyed by fire.

BRISTOL.—The paint and varnish works of Mr. J. Rudman, River-street, Bristol, have been burnt out.

BURY.—The sawmills of Messrs. Thompson & Brierly, Ltd., Boundary-street, Bury, have been damaged by fire to the extent of many thousands of pounds.—Several thousands of pounds worth of damage was caused by a fire which occurred at the premises of S. Smith, packing-case maker, Buckley-street, Bury.

MILDENHALL.—The four story steam flour mill of Parker Bros., Ltd., Mildenhall, has been completely gutted by fire.

WIGAN.—Damage to the extent of £3,000 has been caused by a fire at the Grove Chemical Works, of British Glues & Chemicals, Ltd., Applebridge, near Wigan.

* See also our List of Contracts, Competitions, etc.

NEW COMPANIES.

THE particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 and 117, Chancery-lane, W.C.2, from the documents available at the Companies' Registry.

ROOFING TILES, LTD. (176,150). Registered August 6. Ormside Works, Holmethorpe, Redhill, Surrey. Nominal capital, £3,000.

ROUGH HAY BRICK & COLLIERY CO., LTD. (176,074). Rough Hay, Darlaston, Stafford. Registered August 2. Nominal capital, £10,000.

C. H. W. KIRSTEIN, LTD. (176,025). Registered July 29. Timber preparers and timber merchants. Nominal capital, £20,000.

MODIN & CO., LTD. (176,040). Registered July 29. Timber merchants and agents. Nominal capital, £25,000.

W. H. BRANCH, LTD. (175,957). Registered July 26. Steam Saw Mills, Kidlington, Oxford. Timber merchants. Nominal capital, £1,000.

LONGFORD & MIDLAND CONCRETE CO., LTD. (175,925). Registered July 25. Manufacturers and dealers in concrete. Nominal capital, £2,000.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him *not later than Tuesday evening.*

*Denotes *accepted*. †Denotes *provisionally accepted*
‡Denotes *recommended for acceptance*.
§Denotes *accepted subject to modifications*.

CHEADLE.—Amended tender for Whiston water supply, for the U.D.C.:—

*J. Taylor & Sons, Basford ..	£4,247 16 4

CHISWICK.—For construction of Wellesley-road Bridge, for the U.D.C. Mr. Edward Willis, Borough Engineer:—

Graham, Denny & Co., London..	£7,380 18
Davidson, Sykes, Ltd., London..	10,041 19
Unit Construction Co., London ..	11,137 0
A. E. Farr, London.....	11,297 0
W. & C. French, Buckhurst Hill..	11,750 0
J. & W. Stewart, London.....	11,898 0
John Garlick (1910), Ltd., London	11,980 0
Yorkshire Hennebique Contracting Co., Leeds	13,400 0
Holloway Bros., London.....	13,600 0
Brims & Co., Newcastle-on-Tyne	14,500 0
G. E. Wallis & Sons, Maidstone..	14,870 0
J. Garrett & Son, London.....	15,426 0
Baldry, Yerburgh & Hutchinson, Ltd., London	15,408 0
Wilson, Lovatt & Sons, Wolverhampton	15,729 0
Wimpey & Co., Hammersmith....	17,800 0
Engineer's estimate (inclusive of approach road)	16,240 0

DUNMOW.—For laying water mains to Ford Cottages, for the R.D.C.:—

*T. Harris, Dunmow £120 12	

GLASGOW.—For the erection of 514 houses at Sandyhills, Shettleston, for the T.C.:—

†John M'Donald, Ltd. (*brick work*)	£151,531 7 10
†Elphinstone Forrest (for 416 houses) (*concrete work*)	103,829 10 4
†John M'Donald, Ltd. (*joiner work*)	93,177 5 5
†A. Robertson (*slater work*)..	39,430 11 3
†Colin Turner (*plumber work*)	68,815 0 0
†F. D. Cowieson & Co. (*plaster work*)	29,507 19 4
†James Stirling (*painter work*)	10,430 3 0
†James M'Fie (*glazier work*)	2,881 18 9

GLASGOW.—For the erection of 224 houses at Possilpark, for the T.C.:—

*Glasgow & District Building Guild	£173,804

HAMPTON.—For the erection of 16 houses, for the U.D.C. Mr. Sidney H. Chambers, Surveyor, Public Offices, Hampton, Middlesex.

*Purnell & Clifford, Slough	£8,711 0 0
G. E. Scutt, Wimbledon	9,084 0 0
Landen & Reed, Teddington	9,440 0 0
Stevens, Horlock & Co., Hackney	9,945 0 0
A. Cole, Ltd., Luton	10,289 0 0
H. March, Hampton	10,297 17 6
Prior, Watson & Co., Kingston	10,736 0 0
Dilliway & Elvy, Kensington.....	11,287 0 0
F. D. Hidden & Co., Brentford	11,300 0 0
D. Draisey, Hounslow.....	11,360 0 0
D. G. Somerville & Co., Ltd., Westminster	11,650 0 0
Collinson & Co., Ltd., Teddington....	11,777 0 0
Stokes & Son, Thames Ditton	12,000 0 0
Walter Jones & Sons, Westminster ..	12,569 0 0
Guest & Goodall, Ltd., Ascot.....	15,120 0 0

HAMPTON.—For erection of three bungalows in Oldfield-road, as a war memorial. Mr. L. H. Chambers, Borough Surveyor, honorary architect:—

*Prior, Watson & Co., Kingston..	£2,265 0
A. C. Herbert, Teddington.....	2,565 0
H. Offer & Co., Kingston.....	2,595 0
Collinson & Co., Teddington....	2,610 0
A. A. Smith, Hampton.....	2,721 0
J. Wright & Son, Hampton.....	2,800 0
H. March, Hampton.....	3,026 3
J. Singleton & Son, Hampton Hill	3,110 0
J. Burgess & Son, Wimbledon....	3,210 0
H. Joyce, Sunbury-on-Thames..	3,360 0
D. Shepherd, Hampton.....	3,750 0

HINDLEY.—For the conversion of a building in the Town Yard, Wigan-road, to a motor-garage, and for the erection of a disinfecting station in the stable yard, Cross-street, for the U.D.C. Mr. O. P Abbott, Surveyor, Council Offices, Hindley.

*J. Johnson & Sons, Wigan.

INVERNESS.—For the erection of a new pavilion at the Clachnacuddin Football Club ground. Mr. J. G. Chisholm, architect, 15, Union-street, Inverness. Quantities by architect:—

Carpenter and Joiner Work.—

*Norman Smart, Inverness £816 0 0	
Fraser Macdonald, Inverness 845 0 0	
Simpson & Fraser, Inverness 915 0 0	

HORNSEY.—For electrical installation at Ferme Park Chapel and Lecture Hall, Hornsey. Mr. Sydney G. Goulding, builder, Hornsey. Mr. H. Gabrille, electrical engineer, Stroud Green, N.:—

	Chapel.	Lecture Hall.
*Central London Electrical Co., London ..	£346 6 0	£238 0 6 ....
E. Wight & Co.	436 15 0 .... £416 15 0	250 0 8 .... £240 0 8
S. G. Goulding, Hornsey	423 18 0 .... 391 4 0	309 6 0 .... 290 18 0
T. Lynch	369 17 0 .... ——	383 10 2 .... ——
Sims & Sims	452 11 0 .... 360 15 0	346 9 6 .... 279 18 6
W. A. King	514 10 7 .... ——	347 7 10 .... ——
Macdonald, Syer & Co.	526 10 6 .... 505 1 6	379 4 3 .... 366 5 6
C. H. Ekless, Muswell Hill	560 12 0 .... ——	429 0 0 .... ——

(All tenders for screwed barrel casing.)

Plumber work.—
*D. Matheson, Inverness £51 0 0
John Brown, Inverness 52 0 0
James Nisbet, Inverness 53 7 6
D. Chisholm, Inverness 54 10 6
A. Thomson & Co., Inverness .. 67 3 0

ROCHDALE.—Accepted by Paving, Sewering and Buildings Committee of the T.C. :—
Painting work at Rockmills Sewage Works—J. F. & S. Buckley, Rochdale.
Four electric motor pumps—Pulsometer Engineering Co., Ltd., Reading.

WAYFORD (NORFOLK).—For alterations to house at Wayford, near Stalham, Norfolk, for Mr. H. A. Turner. Mr. Gordon Allen, F.R.I.B.A., architect, 435, Strand, W.C. 2 :—
*Rice Bros., Norwich £315

The Trieste Samples Fair.

With reference to the announcement in our last issue regarding the organisation of a British propaganda and information bureau at the Trieste Samples Fair, the Department of Overseas Trade has now received a telegram from H.M. Consul-General at Trieste notifying that the Samples Fair has been postponed until May, 1922. The arrangements are therefore suspended for the present.

TRADE NEWS.

Messrs. Super Cement, Ltd., of 10, Upper Woburn-place, W.C. 1, have issued a booklet setting out the meaning of terms used in concrete construction and methods of mixing concrete in order to obtain the best results. Proportions of cement, sand, and stone suitable for concrete for various purposes are given, together with the cost per cubic yard.

We have received from the General Electric Co., Ltd. (Magnet House, Kingsway, W.C.) a pamphlet dealing with their "Fairyland Strip" system of illumination, for indoor or outdoor illumination. This type of lighting fitting consists of lampholders placed at equal distances apart along lengths of light cable. It can be supplied in any desired length, and, being flexible, can be run around angles, cornices, &c., and allowed to hang in festoons or entwined around columns. It is made in various patterns for different services, and is equally suitable for metal filament or carbon filament lamps. When the strip is employed for temporary illumination it can be easily dismantled and laid aside for use on subsequent occasions. It is also available in a special type for permanent illumination.

The fifteenth edition of "Road Reinforcement," the publication issued by the British Reinforced Concrete Engineering Co., Ltd. (Dickinson-street, Manchester), as propaganda with a view to securing an improvement in road construction, contains an interesting article by Lieut.-Col. A. T. Andrews, R.E., in which the history of the highways of this country is traced from the time of the Romans to the present day. He points out that with the development of the motor-car and motor-coach the roads are returning to the importance they once enjoyed as a means of inland communication, and says that unless the roads are improved so as to meet present and future traffic the trade and prosperity of the country will be seriously hampered. The booklet contains several illustrations of roads, both finished and in course of construction, in which "B.R.C." reinforcement is used.

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